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THE BIRDS OF CHILE

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THE BIRDS OF CHILE

INTRODUCTION

When the collections of the Marshall Field Chilean Expedition of 1922-24 began to reach the Museum, it was my intention to prepare merely an account of the species contained therein, but with the progress of my studies I could not fail to realize how little was actually known regarding the exact distribution of the birds of Chile in spite of the fact that this country had attracted the attention of naturalists at a much earlier period than any of the other South American republics. Therefore, it was decided to give the work a wider scope by incorporating all the available information on Chilean ornithology, unusually scattered through numerous books and serials.

In setting some limits to the area covered by this memoir, I have been guided partly by political boundaries, partly by faunal divisions. The ultimate settlement of the long-disputed question of the northern boundary has resulted in the division of Tacna Province between Peru and Chile, but the new frontier, having no faunal significance, could not possibly be accepted as a basis for delimiting the area in the north, and it has been deemed convenient to include the whole province of Tacna. In the south, the forty-eighth degree of southern latitude, which very nearly coincides with the southern limit of the "Valdivian" forest, is taken as the dividing line, the country beyond being, according to the meager data at hand, unquestionably Patagonian in its faunal affinities. To the eastward, the only practicable course was to follow the political boundary between Chile and Argentina, which roughly corresponds to the crest of the main Cordilleran chain except in the extreme south, where the Chilean territory stretches to a considerable extent down the eastern slope of the Andes.

Chile, as understood in the present paper, thus comprises the area between 18° and 48° S. lat., extending from the summit of the Andes to the seacoast. Every species recorded from this area has been listed regardless of whether or not it is represented in Field Museum. I have, however, omitted the purely oceanic birds (petrels and albatrosses) with the exception of a few which by reason of the mode of their occurrence seemed to deserve a place among the Chilean land birds. While the material in Field Museum naturally formed the principal basis of this paper, the greater part of Chilean birds preserved in other institutions has likewise passed through my hands. Several trips to Europe enabled me to examine a good many

critical species and types in the collections of the British Museum (Natural History), the Muséum National d'Histoire Naturelle at Paris, the Zoological Museum at Berlin, the Senckenbergian Natural History Museum at Frankfort, the Zoologische Staatssammlung at Munich, and the Naturhistorisches Museum at Vienna. Frequent loans from the principal museums in the United States have also supplied much pertinent material.

For favors extended during the preparation of the report my thanks are due to Mr. Outram Bangs, M. Jacques Berlioz, Mr. D. S. Bullock, Professor E. Bourdelle, Dr. Frank M. Chapman, Mr. H. B. Conover, Mr. August Hemprich, Mr. N. B. Kinnear, Professor F. Lataste, Professor A. Laubmann, Dr. Percy R. Lowe, Dr. R. Mertens, Dr. C. W. Richmond, Mr. C. Rogers, Lord Rothschild, Dr. E. Stresemann, Mr. W. E. C. Todd, and Dr. A. Wetmore. To my colleague, Mr. Karl P. Schmidt, I am indebted for kindly comparing certain specimens with types in the Museo Nacional at Santiago.

HISTORICAL SKETCH OF CHILEAN ORNITHOLOGY

Our earliest knowledge concerning the bird-life of Chile dates from the latter part of the eighteenth century, when the Jesuit Father *Juan Ignacio Molina*, a native of the province of Maule, in his "Saggio sulla Storia Naturale del Chile," first published at Bologna in 1782, treated of thirty-three species found in that country, of which twenty-three, including the genus *Phytotoma*, were described as new. The descriptions are none too full and in some cases even utterly unidentifiable, doubtless owing to the fact that Molina, having been forced to leave his country, compiled their account from memory or incomplete notes. The species described by him were critically reviewed by R. A. Philippi and more recently by Deautier and Steullet. It is rather strange that no reference is made in his writings to the family *Pteroptochidae*, which forms such a striking feature among the birds of Chile.

The next contribution to Chilean ornithology is due to the naturalists of the French corvette "La Coquille," *R. P. Lesson* and *P. Garnot*, who from January 23 to February 13, 1823, explored the shores of Concepción Bay, and described a number of new birds from that region.

A few years later, in March and April, 1827, *F. H. von Kittlitz*, naturalist aboard the Russian vessel "Seniavin" under the command of Captain Lütke, visited Chile, working in the vicinity of La Concepción and Valparaiso, and to him we owe the discovery of various

characteristic species of the Chilean fauna, including four representatives of the *Pterotochidae*.

At the same time, during the years 1827 and 1828, *Eduard Poeppig* also traveled in Chile. Being primarily interested in botany, this distinguished naturalist, beyond describing a new duck (*Mareca sibilatrix*), contributed but little to ornithology, though he was the first to tell us something about the bird-life of the Andean districts in Aconcagua and Biobio.

Captain *Parker King*, commander of the surveying vessel "Adventure," while chiefly concerned with exploration of the Straits of Magellan, collected a few birds within the limits covered by the present paper, at Port Otway and on Chiloé Island, his most noteworthy find being a new tapacola (*Pterotochos tarnii*).

Alcide d'Orbigny, in the course of his extensive South American journey in the years 1826 to 1832, did some collecting in the vicinity of Valparaiso and at Cobija, and then proceeded north to Arica, whence, by way of Tacna, Palca, and Tacora Pass, he crossed over the Andes into Bolivia. The results of d'Orbigny's researches were laid down in a preliminary "Synopsis" published jointly with *A. de Lafresnaye*, containing diagnoses of nine new species from northern Chile. Subsequently, the explorer gave a more comprehensive account of the ornithological collections with notes on habits and distribution in the fourth volume of his "Voyage dans l'Amérique Méridionale." D'Orbigny was the first to supply information on the bird-life of the northern provinces and, for many years, remained the only authority for this part of the republic.

Chilean ornithology gained very little advancement from the voyages round the world of the Russian sloop "Predpriatie," the French corvette "La Favorite," and the British ship the "Blonde," though a few (actual or supposed) novelties obtained on these occasions were made known to science by *Eschscholtz*, *Gervais*, *Eydoux* and *Gervais*, *Jardine* and *Selby*, and *J. E. Gray*.

Much more important were the results of the voyage of the "Beagle" (1832-36), in which *Charles Darwin* took part as naturalist. The expedition stopped at various ports between Chiloé Island and Copiapó, and, besides discovering several new species described by John Gould, gathered many data on the distribution of Chilean birds.

* *F. J. F. Meyen*, who, in 1834, published an account of the birds obtained on a trip round the world, recorded and described sundry

species from Copiapó and various localities in the central provinces, including three from the Puna Zone of Santiago (Volcan de Maipo).

William Swainson, between 1832 and 1838, published descriptions of half-a-dozen Chilean birds. All are credited to W. Hooker's collection, but nothing is known of the source whence they came.

Between 1831 and 1844, *R. P. Lesson* made numerous contributions to Chilean ornithology, describing various new species from specimens sent by Claudio Gay or by his brother Adolphe Lesson, surgeon of the brig "La Pylade," and others again from the private collection of Dr. Abeillé, of Bordeaux. A number of Chilean species are also included in his report on the birds secured by Busseuil during the voyage of "La Thétis" and "L'Espérance" in 1824 to 1826.

Titian R. Peale, the naturalist of the United States Exploring Expedition during the years 1838 to 1842 under the command of Captain Charles Wilkes, lists some birds from Valparaíso. The supposed novelties prove, without exception, to have been described previously.

Thomas Bridges made considerable collections in Chile in the early forties. According to his own report, he worked chiefly in Colchagua, between 34° and 35° S. lat., exploring that province up to the edge of the snow, though he must also have visited other parts of central Chile, as the lowlands of Valparaíso, localities in that section being referred to by Fraser in his final account of Bridges's collections. On his second trip to South America, Bridges landed at Cobija, Antofagasta, and by way of Calama and Tapaquilcha Pass reached the Bolivian highlands.¹ The collections made in Chile, Bolivia, and on an excursion to Mendoza were mixed up by his London agent H. Cuming, an unfortunate mishap that led to numerous erroneous records.²

Another period was inaugurated by *Claudio Gay*, who may justly be called the father of Chilean natural history. This energetic scientist spent twelve years (1830-42) in the country, founded the Museo Nacional at Santiago, and incorporated the results of his researches in the "Historia física y política de Chile," of which eight volumes are devoted to zoology. The ornithological portion, published in 1847, was entrusted to *O. des Murs*, who was responsible for classification

¹ Cf. P. Z. S. Lond., 14, pp. 7-9, 1846; 15, p. 28, 1847.

² A complete set of Bridges's birds was acquired by Lord Derby and is now in the Free Public Museum at Liverpool. A smaller number passed into the British Museum. Specimens which we have seen in the latter institution bear no other locality than "Chile," and are, therefore, of little value other than historical.

and technical descriptions, while Gay merely contributed notes on distribution and habits. The author obviously was not very familiar with the subject, as he admitted many species without good reasons, entered some twice or three times under different names, and misidentified others. As a whole, Des Murs's volume is rather unsatisfactory and cannot be taken as a trustworthy basis. Gay appears to have traveled a good deal, the extreme points mentioned in his book being Chiloé and Copiapó. His most important discoveries were two seed-snipes, *Attagis gayi* and *Thinocorus orbignyianus*, and the remarkable spine-tail, *Sylviorhynchus desmursii*. The greater part of his collections has been deposited in the Paris Museum.

Professor *Behn*, of the University of Kiel, landed at Cobija on February 23, 1847, stopped at Calama from February 27 to March 1, reached Ascotan on March 5, Tapaquileha on March 6, and then proceeded to Potosi, Bolivia. His collection, which includes a small number of birds from Antofagasta, is now in the Berlin Museum.

The *United States Naval Astronomical Expedition* under Lieutenant *J. M. Gilliss*, between 1849 and 1852, crossed the Andes several times from Santiago to Mendoza and vice versa. The collections were worked out by *Cassin*.

Ernst von Bibra, in 1853, reported on the results of a six months' trip to Chile, and gave a list of the species obtained during his travels. The points visited were the Bay of Corral in Valdivia, Valparaiso, Santiago, and the Cordillera of Santiago.

In the late fifties, the Austrian frigate "Novara" called at Valparaiso. Birds were collected by the naturalists of the expedition, *G. von Frauenfeld* and *J. Zelebor*, and additional material was secured from two local ornithologists, *C. Segeth* and *Ph. Germain*. *Pelzeln* gave a detailed account of the collections which, however, did not materially add to our knowledge of Chilean birds.

With the arrival of *Ludwig Landbeck* (1852) and *R. A. Philippi* (1853) Chilean ornithology entered into another phase, which we may aptly call the scientific period. In a series of elaborate papers, these authors dealt with various groups, discussing the characters of the different species, their plumages, distribution, migratory movements, and habits. Although hampered by lack of literature and comparative material from other parts of the neotropical region, which caused them to consider certain previously described species as heretofore unknown, Philippi and Landbeck greatly advanced our knowledge of Chilean birds by their careful monographic studies, among which those on the genera *Muscisaxicola*, "*Certhilauda*"

[=*Geositta*], *Fulica*, and "*Bernicla*" [= *Chloëphaga*] deserve particular notice. In addition to these exhaustive essays, they also described, either jointly or separately, many new species, including a number of Puna Zone birds from the Cordillera of Tacna contained in a collection bequeathed to the National Museum of Santiago by the late Señor Froben, of Arica. Landbeck¹ appears to have had a prominent share in the compilation of these various papers which, in style and expression, reveal unmistakable evidence of his able pen. In the "*Zoologischer Garten*" for 1877, he presented us with an account of the song-birds of his adopted country, which ranks among the very best that has been written on the life-history of Chilean birds.

G. Hartlaub, in 1853, offered critical remarks on a collection from Valdivia received through Philippi, and was followed by E. von Boeck, who wrote on the birds of the same district from a faunal point of view.

R. O. Cunningham, naturalist of the surveying vessel "*Nassau*" during 1866 to 1869, obtained sundry specimens on Chiloé and at Coquimbo, which were reported upon by Sclater and Salvin.

Two residents of Chile, Edwyn C. Reed and Friedrich Leybold (a native of Bozen, Tyrol) made ornithological collections, mostly in the central provinces and on Juan Fernandez, which, for the greater part, have been acquired by the British Museum and the Munich Museum. Leybold added a new humming bird, *Rhodopis vesper atacamensis*, to the Chilean fauna, while Reed contributed to literature an important paper on the birds of Colchagua.

Neither the collections of Dr. Coppinger during the cruise of the "*Alert*" nor those of the "*Challenger*" expedition yielded much new information beyond a few records from points on the coast, and the same may be said of the material gathered by Captain A. H. Markham of the SS. "*Triumph*," of which Salvin published an annotated list.

Noteworthy progress in the exploration of the somewhat neglected northern provinces was achieved through two expeditions to Tarapacá, in both of which Carlos Rahmer, subdirector of the Museo Nacional of Santiago, took part. The first of these expeditions, sponsored by the Chilean government, left Copiapó on December 27, 1884, and reached Antofagasta de la Sierra (now belonging to the Argentine department of Los Andes) on January 16, 1885, whence

¹A sketch of the life and scientific activity of this excellent ornithologist is given by W. Bacmeister in *Jahreshefte Ver. Vaterl. Naturk. in Württemberg*, 70, pp. XXX-XLVI, 1914.

the party traversed the provinces of Antofagasta and Tarapacá in a northward direction, descending via Pica to Iquique. A nominal list of the birds collected on the trip, the itinerary of which was described by F. Philippi, has been published by R. A. Philippi. Early in 1886, Rahmer, on behalf of Mr. H. Berkeley James, returned to the Cordillera of Tarapacá. The collection of birds was studied by *P. L. Sclater* and contained a strikingly distinct new species of flamingo.

Fernand Lataste, the distinguished French zoologist, while professor at the Medical School of Santiago (1889–96), on numerous excursions in the central provinces (Valparaíso, Santiago, Colchagua, Curicó, Maule, Ñuble) gathered considerable collections, upon which he wrote a series of well-annotated articles in the “*Actes de la Société Scientifique du Chile*.” It is much to be regretted that various adverse circumstances prevented M. Lataste from extending his researches into other parts of the country. Series of his specimens have been distributed to the British Museum and the Paris Museum, while a set of duplicates was presented by him to the Linnean Society of Bordeaux.

The United States Fish Commission Steamer “Albatross,” in 1887–88, forwarded a small number of birds from Port Otway to the United States National Museum, which were listed by *R. Ridgway*.

Ambrose Lane, in the interests of Mr. *H. Berkeley James*, went to Chile in December, 1889, for the purpose of ornithological collecting, which he kept up for about a year, until the outbreak of a revolution forced him to leave the country. He first worked in Santiago Province, then undertook a trip to Tarapacá, and finally explored Arauco and Valdivia. *P. L. Sclater* reported on the collection from Tarapacá, while Lane himself published valuable field-notes on 124 species met with during his travels.

Ludwig Plate, a German zoologist, visited Chile and the Straits of Magellan from 1893 to 1895, collecting birds at various spots between Iquique and Puerto Montt. An annotated list of the species was prepared by *Schalow*.

Gustav Hopke was engaged in bird collecting around Puerto Montt, Llanquihue, in the latter half of 1895. The bulk of his collection went to the late Count Berlepsch, but a set was acquired by the Vienna Museum.

A professional collector by the name of *A. von Lossberg*, in 1896 and 1897, sent many bird skins from Valdivia to Count Berlepsch, which are now in the Frankfort Museum.

In the fall of 1902, *Otto Garlepp* made a short trip to Arica, Tacna, and Palca, also in the interest of Count Berlepsch. The birds obtained on that occasion were never reported upon, but I have examined most of the specimens, now in the Senckenbergian Museum at Frankfurt.

Captain *R. Paessler*, of the German merchant marine, published excellent observations on the breeding habits of the birds found in the vicinity of Coronel, and also notes on the occurrence of marine birds at various points of the Chilean coast.

D. S. Bullock and *A. C. Saldaña* forwarded interesting collections from the vicinity of Temuco, Cautin, to the British Museum, while more recently *T. Hallinan* secured a valuable series of birds at Tofo, north of Coquimbo, for the American Museum of Natural History, New York. No complete account has yet been published on any of these collections.

Frank M. Chapman, accompanied by Lord William Percy and F. C. Walcott, explored the islands south and east of Chiloé Island and, after visiting the Straits of Magellan, proceeded northward to Santiago and crossed the Andes to Puente del Inca, a station on the Trans-Andean Railroad. A short account of the ornithological observations gathered on this occasion was published in the Bulletin of the British Ornithological Club.

Within the last ten years, a number of faunal papers have appeared in *Carlos Porter's* "Revista Chilena de Historia Natural," which have thrown much light on the local distribution and migration of Chilean birds. Among them may be mentioned *Father Housse's* articles on San Bernardo, Santiago, and the Isla La Mocha, Arauco; *E. Gigoux's* notes on the birds of Caldera, Atacama; *D. Bullock's* contributions to the ornithology of Malleco; *Jaffuel* and *Pirion's* avifauna of Marga-Marga; and especially *Rafael Barros'* excellent observations on the bird-life of the valley of Nilahue, Curicó, and the Cordillera of Aconcagua, which have considerably advanced our knowledge of altitudinal distribution.

EXPEDITION OF FIELD MUSEUM

In the fall of 1922, Dr. Wilfred H. Osgood, Mr. H. B. Conover, and Mr. Colin C. Sanborn left Chicago for extensive zoological field work in Chile, which was conducted during nearly two years and resulted in the acquisition of more than fifteen hundred bird skins. The following notes on the localities visited have been prepared mainly by Mr. Sanborn.

Quellon, Chiloé Island, Province Chiloé. Dec. 21, 1922–Jan. 6, 1923. Jan. 22–29, 1923. The coast here is made up of narrow sandy beaches with a large tidal flat at the east end of the town. Inland the country is very hilly and all forested except patches here and there which have been cleared or burnt over for farm and pasture land. Some woods are fairly open and mossy but most are heavy with tangles of bamboo grass. All is cut by ravines and gullies filled with bamboo ("quila") and fallen trees. Roads and trails are very poor and lead inland no more than a few miles.

Mouth of the Rio Inio, Chiloé Island. Jan. 7–21, 1923. On one side of the river is a high, rocky, jungle-clad promontory behind which a trail runs to the coast on the other side where there is a sandy beach. On the other side of the river the coast is low, with a wide beach where there were many wild strawberries. A short distance inland is a tidal flat about two miles long about which the river curves. A short trip was made up the river where the country, like the coast, was found to be heavily forested and overrun with the quila.

Melinka, Ascension Island, Guaitecas Islands. Jan. 30–Feb. 6, 1923. Melinka lies on a point of the island, most of which near the town was rocky and moss-covered. During the winter rains it is not possible to go inland on account of the rain-soaked moss. There was very little heavy vegetation near the town and practically no quila. A trip was made with a guide to the Matuco Lagoon in the hills above the town and inland from the lighthouse. Another trip was made by boat to Port Lowe, past Clotilde and Guaiteca Islands, which have a heavier growth of trees.

Puerto Aisen, Province Llanquihue. Feb. 8–10, 1923. A port for small steamers at the head of a long, narrow, and mountain-bordered inlet of the same name, about 45° 24' S. lat. The little settlement is situated on the bank of the Rio Aisen near the upper limit of regular tides and nearly forty miles from the open inlet. The valley of the Rio Aisen stretches inland, never more than three or four miles in width, and bounded on each side by forested mountains some 3,000–4,000 feet in height. The conditions are those of heavy rainfall and dense forest. In the bottom of the valley are a few flat swampy areas and in slightly higher ground there are many trees of very large size. In general, the vegetation and bird-life resembles that observed farther north on Chiloé Island. Aside from the port itself, the region is practically uninhabited.

Rio Coihaique, Province Llanquihue. Feb. 11-15, 1923. Headquarters of a sheep and cattle company some forty miles inland from Puerto Aisen. The Rio Coihaique, a stream of no great size, is an affluent of the Rio Simpson, the southern and principal fork of the Rio Aisen. The country is rolling, with mountains of considerable height surrounding. Although the drainage is to the Pacific, conditions are plainly transitional between the heavily forested, humid coast and the drier pampas region to the eastward. There is much open pasture land; and forest, while still plentiful, is by no means continuous. Altitude about 1,500 feet.

Rio Ñirehuau, Province Llanquihue. Feb. 16-March 21, 1923. A long-occupied sheep station shown on some maps under the name Casa Richards. It is slightly north and east of Puerto Aisen and, although the river runs through deep canyons to join the Manuales or north branch of the Aisen, the point where collecting was done is east of the main mountain mass and conditions are essentially those prevailing east of the divide. The station is at the mouth of a small valley through which a rushing stream emerges from the mountains. Eastward are rolling low hills mostly treeless and alternating with open pampas connected by low passes with the great plains of central Argentina. The fauna and flora are mainly Argentinian rather than Chilean, although in some cases coast forms straggle through the mountains to reach this point.

Máfil, Province Valdivia. Feb. 14-28, 1923. Máfil is a short distance from Valdivia and lies in the main valley of Chile, which here is rolling country, cut by rivers and ravines and largely cleared of forest. Collecting was done on a wheat and dairy ranch where there were but few woods.

Lago Riñihue, Province Valdivia. March 4-19, 1923. Lago Riñihue is south of Valdivia and inland in the low mountains about 140 meters above sea level. It is surrounded by heavy forest which is more open than that found farther south. Some of the forest has been cleared and burnt over. It rained eight out of the fifteen days spent there. The Trans-Andean-San Martin Railroad ends at Riñihue.

Hacienda Gualpencillo, Concepción, Province Concepción. March 27-April 27, 1923. This hacienda was a large dairy farm situated in the open flat country between Concepción and Talcaguano. It was made up of corn, wheat, and bean fields, and pasture land. There were brushy sand dunes next to the Biobio River and pasture land where "boldo" and "litre" were the common growth.

Quirihue and Cauquenes, Province Maule. April 27–May 4; May 9–13, 1923. The country about Quirihue and Cauquenes is very arid and sandy compared with that near Concepción. The country is broken and hilly with but little vegetation besides the clumps of eucalyptus and the many vineyards. About *Pilen Alto*, some eight miles from Cauquenes, there is a woods of young second growth.

Baños de Cauquenes, Province O'Higgins. May 1–8, 1923. A resort on the bank of the Rio Cachapoal in the foothills of the Andes and nearly due east of the city of Rancagua. About 34° 3' S. lat. The hillsides are brushy with patches and clumps of deciduous trees. In the dry season the ground is hard and baked and general conditions are much like those of central California. The high Andes rise immediately behind.

Olmué, Province Valparaíso. May 22–June 3, 1923. Olmué is a small town a few miles from San Francisco de Limache which is on the Valparaíso-Santiago Railroad. Olmué is at the foot of the Cerro Campana, which Darwin visited in 1835. It lies in a small valley surrounded by high rocky hills which are covered with a scant growth of semi-arid vegetation. Some of the gullies between the hills are fairly well wooded.

Paiguano, Province Coquimbo. June 13–July 2, 1923. This town is in a narrow valley which branches off from the Elqui Valley at Rivadavia. The country is rocky and semi-arid, but many fruits are raised by irrigation.

Romero, Province Coquimbo. July 9–Aug. 3, 1923. Romero is but a few miles up the Elqui Valley from La Serena. It does not lie in the valley proper but a little to the north of it. Romero is a large dairy farm where the rocky hills and gullies leave room for pastures and "alfalfa" fields. The natural vegetation is cactus and scraggly bushes.

Domeyko, Province Atacama. Aug. 9–17, 1923. Domeyko is a small stop on the railroad about 60 km. south of Vallenar. It lies in a broad, sandy valley surrounded by dry hills which have a sparse growth of "spinosa" and "algarroba" bushes. Cactus was much less plentiful here than at Coquimbo. Many of the birds taken were secured near a small water hole. A colony of parrots (*Cyanolyseus p. byroni*) is said to nest in a cliff near Domeyko in October.

Ramadilla, Province Atacama. Aug. 23–26, 1923. This place is a large hacienda on the railroad between Copiapó and Caldera. It

lies in a broad part of the well-watered valley bordered by very dry, sandy hills. Most of the collecting was done in some wet brushy pasture and swamp land where birds were plentiful. This is the only place where the black rail (*Creciscus j. salinasi*) was seen.

Caldera, Province Atacama. Aug. 27–Sept. 1, 1923. Caldera itself is a veritable desert with the only life along the rocky coast. A trip was made up the coast to the *Quebrada de Leon* where there is a little water and some vegetation appears on the hills. Here there were numerous birds about.

Rio Loa, Province Antofagasta. Sept. 11–17, 1923. The Du Pont-Nobelle powder plant is at Rio Loa, about seven miles from Calama. The surrounding country is bare desert, but along the gorge of the river Loa is vegetation and some swampy pastures in places where the gorge widens.

Ojo de San Pedro-San Pablo and Kilometer 31. Sept. 17–19. Oct. 1–12, 1923. The city of Antofagasta gets its water through a pipe-line from the mountains close to the Bolivian border. The tanks are at San Pedro de Agua Potable up the railroad from Calama, and Kilometer 31 is 31 km. up the pipe-line from San Pedro. The Ojo de San Pedro-San Pablo is a large alkali swamp fed by fresh-water springs at the foot of the volcanoes of those names. There were many water birds about the Ojo. The country about the Ojo is rolling desert cut by gullies and surrounded by other volcanoes.

La Compañía, Province Coquimbo. Oct. 31, 1923. This is a small place just outside La Serena where one day was spent collecting on a brushy hillside.

Baños del Toro, Province Coquimbo. Nov. 6–20, 1923. These baños are in a bare narrow valley about 11,000 feet above sea level in the mountains directly inland from Coquimbo. Other gulches branch out and one had a quantity of rough mountain pasture in it. Just before reaching the Baños there is a wide sandy plain, covered with heavy, coarse vegetation. The hills about were partly bare. There were many birds at this season, which was early spring.

Papudo, Province Aconcagua. Dec. 1–10, 1923. Papudo is a small town on the coast north of Valparaiso. The coast north of the town is rocky while to the south it spreads out into a wide beach with sand dunes for a short distance inland.

San José de Maipo, Province Santiago. Dec. 17–21, 1923. This locality is in the mountains inland from Santiago. There was plenty of water and vegetation but birds were scarce.

Curacautin, Province Malleco. Jan. 8-16, 1924. Curacautin is the end of the railroad which starts from the main line at Victoria. The region was at one time heavily forested but much of the land had been cleared for farms.

Termas de Tolguaca, Province Malleco. Jan. 17-30, 1924. Tolguaca lies to one side of Curacautin and about five hours' ride on horseback from it. The Termas or springs are in a low range of pine-covered hills. Lake Malleco is about an hour's ride from Tolguaca. The region is well forested. Tolguaca has a large hotel and baths and there are many people there during the season.

Rio Colorado, Province Malleco; Villa Portales, Rio Lolen, Lago Gualletué, Province Cautin; Neuquen District, Argentina. Feb. 2-March 3, 1924. A road runs from Curacautin through the Lonquimai Valley to Sapalla, Argentina, which was used to take supplies into Argentina years ago. All the above localities are on this road. Rio Colorado is an easy day's ride from Curacautin among a forest of Araucaria pines. Just beyond Rio Colorado is a low range of hills, the other side of which is Villa Portales in the Lonquimai Valley. Rio Lolen is a large hacienda about ten miles down the valley from Villa Portales. Lago Gualletué is a large lake in the hills near the valley. It is surrounded by pine-covered hills and flat swamp land. The next range of hills, which divides Chile from Argentina, is higher and more bare, reminding one of the country about Coquimbo. On the Argentine side the pines again appear. But little time was spent in Argentina as trouble arose over the baggage with the local outpost of the custom house at Pino Hachado Pass. The whole region is more or less forested and is in the Araucaria pine belt.

Gatico, Province Antofagasta. April 8-11, 1924. Gatico is north of Antofagasta and but a mile or so from the old town Cobija, which as a settlement has ceased to exist. It is on the narrow, bare, rocky coast, backed by steep arid hills.

Rio Loa, Province Antofagasta. April 19, 1924.

Ojo de San Pedro-San Pablo; Kilometers 31 and 40; Silala, Bolivia. April 23-May 5, 1924. Some time was spent at the end of the pipeline on this visit and just across the border in Bolivia at an altitude of 14,200 feet.

Pica, Province Tarapacá. May 15-26, 1924. The town of Pica is about three hours' ride on horseback inland from the railroad town of Pintados. Pica is an oasis in the desert hills and many tropical fruits are raised by irrigation. About two miles south of

Pica is the cañon of *Chintagui* through which a rivulet runs and where there are, in places, some small swamps. The cañon is about three miles long. Birds were more plentiful here and more convenient to collect than in the gardens where people were working.

Chacalluta, Province Tacna. June 12, 14, July 17, 21, 1924. This place is on the coast, at the end of a watered valley, easy walking distance north of Arica. Four trips were made here from Arica and numerous species taken which had not been seen elsewhere in Chile.

Putre and Choquelimpie, Province Tacna. June 17–July 10, 1924. Putre is a small mountain town, inland and north of Arica. It is reached by road from either the Púquios or Alcérrecas stations on the Arica-La Paz Railroad, about an easy day's ride from either one. Putre is in a watered valley where a little alfalfa and some very small potatoes are raised by irrigation. There is a fair amount of vegetation especially along the watercourses and birds are plentiful. A half day's ride beyond Putre in the mountains, at an elevation of 15,000 feet, is the old silver mine called Choquelimpie. This is a region of bare rocky mountains. About two hours' ride from the mine is Lake Chungará where there are many water birds.

GENERAL PHYSIOGRAPHY OF CHILE

Compared to conditions in the neighboring republics, the physiography of Chile is fairly simple. The backbone of the country is formed by the Andes which stretch through the whole of its length in a nearly unbroken chain. In the central and southern provinces there is, besides, a fringe of mountains along the coast, these ranges being, however, not continuous ridges parallel to the Andes, but more or less irregular hill-masses. Inclosed between these two mountainous areas are the central valleys or intermontane basin plains which, according to Darwin, are "the bottoms of ancient inlets and deep bays, such as at the present day intersect every part of Tierra del Fuego and the western coast." The section of the country between Copiapó and Valdivia is crossed by numerous rivers, such as the Copiapó, Maipo, Maule, Biobío, and others. From Copiapó north as far as the Rio Loa, Antofagasta, the coast ranges approach close to the ocean, where, breaking off in steep cliffs and precipices, they leave but a narrow strip of beach. Inland they form a gradually ascending irregular plateau closed in on the eastern edge by a series of isolated cone-shaped volcanoes. North of the Rio Loa, in Tarapacá, the physical features are very similar

with the exception that the coast range is bounded on the east by the deep depression of the nitrate desert, the Pampa del Tamarugal, beyond which the plateau region just mentioned stretches far into Bolivia. The whole section is of volcanic origin, has many salt lakes, but hardly any fresh-water rivers to speak of.

CLIMATIC CONDITIONS, RAINFALL, AND DISTRIBUTION OF FORESTS

Climatically Chile is divisible into three regions: the sterile north from Copiapó to the Peruvian boundary; the central section between 31° and 38° S. lat., that is, from Coquimbo to Concepción, connected with the north through the arid portion of Atacama; and the humid forested south.

These conditions are governed by the influence of the Humboldt Current and the resulting amount of rainfall. The Humboldt Current, a northerly branch of the Pacific antarctic drift, strikes the Chilean coast in the vicinity of the Isla La Mocha ($38^{\circ} 15'$ S. lat.), off Arauco, and from that point laves the western coast of South America as far north as Puerta Pariña, in the Peruvian department of Piura. South of La Mocha is the zone of the prevailing westerly winds with driving rains, while north of it increasing aridity characterizes the climate.

The sterile north, beginning with the desert of Atacama, is an expanse of yellow sand and rock, almost bare of vegetation except along the scanty water courses. "At Iquique," we quote from Mark Jefferson,¹ "one millimeter of rain has fallen in the last five years (to the end of December, 1919). Of the last twenty years fourteen have had no drop of water from the sky, and the whole catch of the twenty years has been 28 millimeters (a little over an inch).

"The drought does not begin to break until one reaches Copiapó, nearly 500 miles farther south. . . . Here rainfalls are infrequent, but the average fall is only 17 millimeters a year (about two-thirds of an inch). The total rainfall at Copiapó in the last twenty-four years has been 408 millimeters, about one-third of what falls in New York in a year. At Ligua [Aconcagua], less than 50 miles from Santiago, it rains every year, on an average 269 millimeters (between 10 and 11 inches). Though the country is still arid, the irrigated spots begin to attain significant size.

¹The Rainfall of Chile. American Geographical Society Research Series No. 7. New York, 1921.

"In the north-and-south valleys between the Andes and coastal mountains, from latitudes 31° to 38° s., the rain increases from the scanty 269 millimeters at Ligua to an abundant 1,250 millimeters at Temuco. Along the coastal mountains the rainfall is always greater, and here too it increases southward from 500 millimeters at Valparaiso to 2,700 at Valdivia. From Valparaiso southward the landward or eastern side of the coast ranges is notably dry, but from the Andes . . . water rushes across the valley flats in increasing abundance as one goes farther south, until in Collipulli, in latitude 38° s., there is a definite change from the landscape of central Chile. A deep valley with rich green meadows across the floor, with slopes of alternate green fields and expanses of well-tilled red soil, with real woods of broad-leaved trees above. The long trip down through the central valley to Puerto Montt is through an almost continuous forest. Here and there are dreary slashings like those of northern Michigan, but still the trees are abundant and tall fine growths."¹ For 900 miles the woods are so wet that it is impossible to set a fire for clearing without constant relighting.

It appears, however, that this extensive forest is not uniform in composition throughout its entire range. Skottsberg,² in fact, divides the south-Chilean rain forest into two subsections: the "Valdivian," richer in species and luxuriance, and the "Magellanic," characterized by the predominance of Patagonian trees, notably *Nothofagus betuloides*. The dividing line is drawn along 48° S. lat., which also coincides with the southern limit of the range of certain species of birds.

Physiographically, Jefferson likens the Chilean coast to our Pacific states, British Columbia, and Alaska. "Nearest the Equator, the northern deserts match those of Lower California; the central valley of Chile between the coast ranges and the Andes matches the great valley of California between the coast ranges and the Sierra Nevada; the wooded valleys of Cautin, Valdivia, and Llanquihue end at the sea on the Gulf of Reloncaví, just short of the island of Chiloé, just as the wooded valleys of Oregon and Washington end at the sea in Puget Sound just short of the island of Vancouver. Finally, the Chilean sounds and fiords between the coastal Andes and the Chilean archipelago recall the Alaskan sounds and adjacent islands."

The annual mean of rainfall in Chile and the distribution of dry farms, irrigated lands, and forests in the central section between La

¹Mark Jefferson, *Recent Colonization in Chile*. American Geographical Society Research Series No. 6. New York, 1921.

²Svensk, Vetenskapsakad. Handl., 56, No. 5, 1916.

Serena (Coquimbo) and Malleco are well shown on the maps accompanying Jefferson's instructive volume on "The Rainfall of Chile."

THE LIFE ZONES OF CHILE

Dr. Chapman's admirable monographs of the ornithology of Colombia and Ecuador have thrown much light on the distribution of bird-life in the northern Andes. Although our actual knowledge of Chilean birds is far too incomplete to allow such a detailed analysis, the available data nevertheless supply sufficient material for a general discussion of the problem. While in the neighboring republic of Peru, just as in Ecuador and Colombia, four well-defined zones of animal- and plant-life between sea level and snow line are plainly indicated, all of Chile's bird-life, except for a narrow strip along the coast of the extreme north where the Tropical Zone enters, pertains either to the Temperate or to the Puna Zone, the Subtropical Zone having been completely eliminated through the default of sufficient rainfall and the resulting absence of mountain rain forest.

Tropical Zone. The arid section of the Tropical Zone known to extend in an almost unbroken stretch from Caraquez Bay, Ecuador, all along the Peruvian coast obviously includes the narrow belt of sandy shore in the Chilean provinces of Tacna and Tarapacá as far south as the Rio Loa. This is evidenced by the presence in that area of such characteristic species as *Anthus lutescens peruvianus*, *Sporophila telasco*, *Volatinia jacarina peruviansis*, *Pyrocephalus rubinus obscurus*, *Muscigralla brevicauda*, *Crotophaga s. sulcirostris*, *Glaucidium brasilianum brasilianum*, *Melopelia asiatica meloda*, and *Eupelia cruziana*. All of these are widely distributed in the arid coast lands of Peru and Ecuador, but totally absent from the rest of Chile. Representatives of this life zone are doubtless also *Xenospingus concolor*, though its area of diffusion appears to be more restricted, and *Rhodopsis vesper vesper* (Lima to Tarapacá) which has a closely allied relative in the arid tropical zone of northwestern Peru. Some of these species have not been taken south of Arica, but others have been traced as far south as Pica, and it is presumed that the Rio Loa will ultimately be found to mark the southern limit of the arid tropical zone on the western coast of South America. South of the Rio Loa the nitrate desert stretches through the entire length of Antofagasta, and the little we know about the coast belt of that province seems to indicate that its bird-life is merely a northward extension of the Temperate Zone of the more southern parts

of Chile. As examples may be cited such species of undoubted South Temperate origin as *Geositta cunicularia deserticolor*, *Geositta maritima*, and *Leptasthenura aegithaloides griseus*, although their ranges reach into the southern section of the arid tropical zone of Peru. On the other hand, *Rhodopsis vesper atacamensis*, of the Copiapó Valley, is doubtless of northern derivation, though speculation on the significance of the occurrence of an arid tropical species in the Temperate Zone of Atacama seems futile until its breeding place has been ascertained.

Temperate Zone. In Colombia, Ecuador, and Peru the Temperate Zone occupies the Andean region from an approximate altitude of 9,000 up to 11,000 or 12,000 feet. In Chile, practically all of the central and southern parts, excepting the elevated Cordilleras, belong to this zone. In the extreme north, owing to local conditions, it is reduced to a comparatively narrow belt between the arid tropical coast strip and the Puna Zone, and its division from the latter is less sharply defined than in the more southern districts.

The South Temperate Zone, however, is by no means uniform throughout its extent, and there exists a certain difference between the bird population of the humid south and that of old colonial Chile whose climate is under the direct influence of the Humboldt Current. The humid section of the South Temperate Zone with its large expanse of tangled forest owns a number of characteristic species, among which *Phrygilus patagonicus*, *Pterotochos tarnii*, *Scelorchilus rubecula*, *Eugralla paradoxa*, *Scytalopus m. magellanicus*, *Sylvioorthorhynchus desmursii*, *Aphrastura s. spinicauda* (and *A. s. fulva*), *Pygarrhicus albogularis*, and *Megaceryle torquata stellata*, etc., may be cited. Some of these birds, in suitable localities, have spread far beyond Concepción, but there can be no doubt that the forested south is their original home, where they are much more numerous in individuals as well as more evenly distributed.

Puna Zone. As in other Andean countries the Puna, corresponding to the Paramo Zone of Colombia and Ecuador, lies between the upper limit of arborescent vegetation and the lower limit of the eternal snow, but its altitudinal expansion, which varies according to latitude and local conditions in different parts of Chile, can hardly be defined at present with accuracy. In addition to certain data in Philippi's and Landbeck's writings, the results of our own expedition and the observations of Señor Rafael Barros in the Cordillera of Aconcagua are the only sources of information concerning the bird-life of the elevated Andean region. Yet our knowledge is confined

to the central and northern provinces, the section of the Andes south of Colchagua being wholly unexplored.

Beginning with the extreme north, in the province of Tacna, we find that at Putre (alt. 11,600 feet), the Puna Zone inosculates with the upper border of the arid Temperate Zone, which creeps up through the bushy ravines, while at Las Cuevas (alt. 13,500 feet) we are already in the heart of the Puna.

The Cordillera of Tarapacá, above 10,000 feet, and the rugged plateau of Antofagasta and of Atacama north of the Copiapó Valley must undoubtedly be assigned to the Puna Zone. Its fauna is characterized by the presence of a good many striking species of water birds, such as *Gallinula chloropus garmani*, *Fulica cornuta*, *F. ardesiaca*, *F. gigantea*, *Charadrius alticola*, *Recurvirostra andina*, *Phoenicoparrus andinus*, *P. jamesi*, and others.

As we advance in a southerly direction, the Puna Zone appears to descend to a considerably lower level than in the north. At least I am unable to explain otherwise the breeding records of such characteristic Puna Zone birds as *Muscisaxicola albilora*, *M. flavinucha*, and *Geositta isabellina* from altitudes of 5,000 to 7,000 feet in Colchagua Province. Unfortunately, our expedition did no work in the Puna Zone south of Coquimbo, and the data which was supplied by Rafael Barros is all we possess with respect to the provinces of Aconcagua and Santiago. How far the Puna Zone extends south from Colchagua through the Andean chain, we have no means of saying, although the taking of *Erismatura ferruginea* during the breeding period at Lake Malleco, Malleco, at an elevation of 3,500 feet is somewhat suggestive. We know, however, that in the southern part of Llanquihue the humid Temperate forest ranges in an unbroken stretch entirely across the Andes, thereby enabling certain forest-haunting birds like *Pterotochos tarnii*, *Scelorchilus rubecula*, *Scytalopus m. magellanicus*, *Cinclodes patagonicus rupestris*, *Aphrastura s. spinicauda*, *Pygarrhicus albogularis*, *Phytotoma rara*, *Phrygilus patagonicus*, etc., to reach the eastern foot of the mountains. There may, therefore, be a break in the continuity of the Puna Zone somewhere in that section of Chile, but the solution of the problem must be left to a thorough biological survey of the Andean regions of the country.

GEOGRAPHICAL VARIATION IN CHILEAN BIRDS

In a country extending over more than thirty-eight degrees of latitude and of such a diversified nature as Chile it is not surprising

to find that its birds have responded to environmental influence. The increased amount of moisture in the south has resulted in the intensification of color-pigment, while, on the other hand, the arid climate of the northern parts, working in the opposite direction, has produced pale, often sand-colored types. This variation can be followed through the range of various species, such as *Scelorchilus albicollis*, *Geositta cunicularia*, *Upucerthia dumetaria*, *Chilia melanura*, *Leptasthenura aegithaloides*, *Asthenes modesta*, and others.

In numerous cases racial distinction goes hand in hand with a change of zonal distribution. A good many species widely diffused in the Temperate Zone of central and southern Chile have geographical representatives in the northern Puna Zone, but then we rarely meet with a member of the same group in the Temperate Zone of the same latitude. Exceptions to this rule are *Geositta cunicularia*, *Leptasthenura aegithaloides*, and *Querquedula cyanoptera*, all of which have a representative in the Temperate coast district, while the corresponding Puna section is tenanted by a closely allied race (see tabular list, p. 25).

Geographic variation within the Puna Zone is rather unusual. Leaving aside *Phrygilus erythronotus* and *P. dorsalis* as well as *Muscisaxicola albilora* and *M. juminensis*,¹ whose specific interrelationship is suspected, but not established, we find the following undoubted geographical races occupying different sections of the Puna: *Phrygilus g. gayi* and *P. g. atriceps*, *Muscisaxicola r. rufivertex* and *M. r. pallidiceps*, *Capella p. andina* and *C. p. innotata*.

The bird population of the southern rain forest is even more uniform and the only noteworthy case of subspecific differentiation is the development of an insular race, *Aphrastura spinicauda fulva*, on Chiloé Island. *Pterotochos castaneus*, which appears to be derived from *P. tarnii*, a characteristic bird of the southern rain forest, should be mentioned in this connection, however.

Of the nine or ten different kinds of land birds occurring in the Juan Fernandez Islands, three, *Turdus falcklandii magellanicus*, *Sephanoides sephanioides*, and *Asio flammeus brevianus* are identical with the mainland forms; one, *Cinclodes oustaleti baekstroemii*, is hardly separable; three, *Spiziotornis parulus fernandezianus*, *Cerchneis sparveria fernandensis*, and *Buteo polysoma exsul*, are well-marked insular races. The two remaining ones, *Aphrastura masafuerae* and *Thaumaste fernandensis* (divisible into two races inhabiting different islands) have become specifically and even generically distinct.

¹*Oreotrochilus estiella* and *O. leucopleurus* probably belong here, too.

GEOGRAPHICAL RACES OCCUPYING DIFFERENT LIFE ZONES

| Temperate Zone | Puna Zone |
|---|---|
| <i>Anthus correndera chilensis</i> —from Coquimbo south | <i>A. c. catamarcae</i> —Antofagasta |
| <i>Lessonia rufa rufa</i> —from Atacama south | <i>L. r. oreas</i> —from Atacama to Tacna |
| <i>Geositta cunicularia deserticolor</i> —from Caldera north | <i>G. c. frobeni</i> —Tacna |
| <i>Cinclodes fuscus fuscus</i> —from Atacama south | <i>C. f. albiventris</i> —from Antofagasta to Tacna |
| <i>Leptasthenura a. aegithaloides</i> —from Coquimbo south | <i>L. a. berlepschi</i> —from Antofagasta north |
| <i>L. a. griseus</i> —from Atacama north | |
| <i>Asthenes modesta australis</i> —from Atacama south | <i>A. m. modesta</i> —from Antofagasta north |
| <i>Patagona gigas gigas</i> —from Atacama south | <i>P. g. peruviana</i> —Tacna |
| <i>Capella paraguayae magellanica</i> —from Copiapó south | <i>C. p. andina</i> —Tarapacá |
| | <i>C. p. innolata</i> —Antofagasta |
| <i>Nycticorax nycticorax obscurus</i> —from Coquimbo south | <i>N. n. tayazu-guira</i> —Tarapacá |
| <i>Nettion flavirostre flavirostre</i> —from Santiago south | <i>N. f. oxypterum</i> —Antofagasta to Tacna |
| <i>Querquedula versicolor versicolor</i> —from Santiago south | <i>Q. v. puna</i> —Antofagasta to Tacna |
| <i>Querquedula cyanoptera cyanoptera</i> —from Coquimbo south | <i>Q. c. orinomus</i> —from Tarapacá north |
| <i>Anas cristata cristata</i> —from Santiago south | <i>A. c. alticola</i> —from Atacama to Tacna |
| <i>Colymbus occipitalis occipitalis</i> —from Atacama south | <i>C. o. juninensis</i> —from Tarapacá north |

BIRD MIGRATION IN CHILE

Bird migration in Chile is threefold. A good many species of the upper Temperate and Puna Zones disappear from their nesting grounds on the approach of the severe season. Some, like *Cinclodes f. fuscus*, *C. o. oustaleti*, and *Asthenes modesta australis*, merely descend to lower altitudes, and spend the winter in the valleys and along the coast. Certain Puna Zone birds of the central provinces, such as *Muscisaxicola albilora*, *M. flavinucha*, and *M. alpina cinerea*, migrate northwards after the breeding period, and hibernate in the Puna of Bolivia and Peru, where they invade the territory occupied by allied resident races. Another representative of the same genus, *M. r. rufivertex*, however, does not extend its peregrinations beyond Atacama and the littoral of Antofagasta.

Various species of the forested south and the Magellanic region move northwards in the fall. Among these may be cited *Aphrastura s. spinicauda*, *Sylviorhynchus desmursii*, *Phrygilus patagonicus*,

and the southern race of the Peregrine Falcon, *Falco peregrinus cassini*, which appears to be a fairly regular winter visitor in the central provinces. A flycatcher, *Muscisaxicola macloviana mentalis*, invades the northern parts of Chile in large flocks, said to consist sometimes of many thousands of individuals. Another member of this group, *Muscisaxicola capistrata*, which breeds in Tierra del Fuego and southern Patagonia, passes the winter in the Puna of extreme northern Chile and the neighboring countries.

In the maritime fauna, too, some seasonal migratory movement takes place. This is particularly noticeable in the case of the two species (or races) of penguins (*Spheniscus*). The winter, furthermore, brings a large number of North American shore birds, gulls, and terns to the Chilean coast, and in bygone times the Eskimo Curlew, *Numenius borealis*, was a not uncommon migratory visitor. The North American Duckhawk, *Falco peregrinus anatum*, also extends its winter flight as far south as Valdivia.

DISTRIBUTIONAL LIST OF THE BIRDS OF CHILE

The systematic account presented in the following pages purports to include every species recorded from Chile with the exception of the purely oceanic birds.

For the sake of brevity, bibliographic references are cited in abbreviated form. The figure after the author's name refers to the same number under which the paper is listed in the bibliography given at the end of the list. References to original descriptions and extralimital papers not included in the bibliography are, however, quoted *in extenso*.

The range of each form has been outlined as precisely as possible. Under the heading, "Material collected," the specimens secured by the members of the Field Museum Expedition or obtained by purchase or exchange have been listed, while the material examined in other collections is enumerated in a separate paragraph. Except in a very few cases where the reversed procedure seemed appropriate, the sequence of localities is from north to south. As to political boundaries, the limits and names of the provinces have been accepted as they are found on maps, although it is understood from Mr. D. S. Bullock that certain changes affecting the status and nomenclature of Arauco, Biobio, Malleco, and Cautin are being considered by the Chilean legislature. Orthography of geographical names is in agreement with L. R. Patron's "Diccionario Jeográfico de Chile," Santiago, 1924.

In the sequence of species we have followed, for the sake of convenience, the latest and most complete catalogue of the birds of Chile, the "New List of Chilean Birds" by Harry Berkeley James, London, 1892. All measurements are in millimeters. Definite color-terms, whenever used, have been taken from Ridgway's "Color Standards and Color Nomenclature," Washington, 1912.

1. *Turdus falcklandii magellanicus* King

Turdus magellanicus King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, p. 14, Jan., 1831—"in fretu Magellanico"; Hartlaub (3), p. 212—Valdivia; Bibra, p. 129—Valparaíso; Kittlitz (3), pp. 149, 164—near Valparaíso; Pelzeln (2), p. 71—Chile; Salvin (2), p. 419—Juan Fernandez; Johow, p. 237—Mas A Tierra; Schalow (2), pp. 731, 747—Ovalle (south of Coquimbo), Santiago, and Juan Fernandez (eggs descr.); Seebohm and Sharpe, Monog. Turd., 1, p. 295, 1899—Hacienda Mansel (near Hospital) and Coronel; E. Reed (4), p. 198—Chile, north to Atacama; Albert (1), 100, p. 883—Chile (monog.); Pässler (2), p. 28—Coronel (nest and eggs descr.); Lönnberg, p. 3—Mas A Tierra and Mas Afuera; Bullock (3), p. 125—Cerro de Nahuelbuta, Malleco; idem (4), p. 184—Angol, Malleco.

Turdus rufiventris (not of Vieillot) Meyen, p. 74—"Prov." Copiapó (juv. descr.; spec. in Berlin Museum examined).

Turdus falcklandiae (not *T. falcklandii* Quoy et Gaimard)¹ d'Orbigny, p. 202—Valparaíso.

Turdus falcklandicus Darwin, p. 59—Chiloé Island; Fraser (1), p. 111; Yarrell, p. 53 (eggs descr.); Peale, p. 85—Chile; Philippi and Landbeck (1), p. 284; idem (2), p. 33; Sclater (2), 1867, pp. 320, 337—Chiloé and Valdivia; Philippi (12), p. 259—Chile; Reed, Ibis, 1874, pp. 82, 83—Mas A Tierra and Mas Afuera; Salvin, Ibis, 1875, p. 376—Juan Fernandez and Mas Afuera; E. Reed (2), p. 541—Cauquenes, Colchagua; Sclater and Salvin (3), p. 431—Juan Fernandez; Housse (1), p. 48—Isla La Mocha; Gigoux, p. 84—Caldera, Atacama; Jaffuel and Pirion, p. 108—Marga-Marga Valley, Valparaíso.

Turdus fuscater (not of Lafresnaye and d'Orbigny)² Des Murs (2), p. 331—Coquimbo to Chiloé; Germain, p. 311—Santiago; Lataste (1), p. CXIV—

¹In Freycinet, Voyage Uranie et Physicienne, Zool., livr. 3, p. 104, Aug., 1824—"aux îles Malouines."

²Des Murs's misidentification of the "Zorzal," pointed out long ago by Philippi and Landbeck (Arch. Naturg., 26, 1, p. 284; Anal. Univ. Chile, 18, p. 33), is responsible for Chilean records of "*Turdus fuscater*" auct. by various authors. As a matter of fact, only the data on distribution and habits supplied by C. Gay refer to *T. f. magellanicus*, while the characters of the Chilean Robin in the "Historia física y política de Chile" are taken (and translated into Spanish) from d'Orbigny's description of the Bolivian *T. fuscater*, as given in his "Voyage dans l'Amérique Méridionale" (4, part 3, p. 200), which is quite a different species (see Hellmayr, Nov. Zool., 28, p. 230, 1921). Frauenfeld, Germain, and even Lataste were thus led into error.

Albert (Anal. Univ. Chile, 100, p. 885) added still further to the confusion by associating *Catharus fuscater* (Lafr.) with *Turdus fuscater* Lafr. and d'Orb!

Bureo, Ñuble; p. CXV—Ninhue, Maule; idem (4), p. XXXIII—Caillihue, Curicó; Waugh and Lataste (1), p. LXXXV—Peñaflor, Santiago; Lataste (9), p. 169—Santa Teresa (Requinoa).

Merula fuscater Cassin, p. 184—Chile.

Turdus fuscoater Frauenfeld, p. 637—near Santiago.

Turdus falklandicus or *T. magellanicus* Landbeck (9), p. 245—Chile.

Merula magellanica Ridgway (2), p. 131—Port Otway.

Planesticus magellanicus Barros (4), p. 148—Ñlahue, Curicó; idem (5), p. 187—Cordillera de Aconcagua; Housse (2), p. 146—San Bernardo, Santiago.

Turdus falklandii magellanicus Pässler (3), p. 474—Coronel (habits).

Range in Chile.—From Atacama to the Straits of Magellan, including the Juan Fernandez Islands.

Material collected.—Coquimbo: Tambillos, ♀ ad., July 8.—Valparaiso: Los Maitenes, Limache, ♂ ad., Oct. 7. J. A. Wolffsohn.—Maule: Pilen Alto, eight miles w. of Cauquenes, ♀ ad., May 13.—Malleco: Rio Colorado (alt. 3,000 feet), ♀ ad., Feb. 3; Curacautin, ♀ juv., Jan. 11.—Cautin: Lake Gualletué (alt. 3,900 feet), ♂ juv., Feb. 20.—Valdivia: Máfil, ♂ ad., ♂ juv., ♀ juv., Feb. 14, 17, 19; Ríñihue, ♀ ad., ♀ juv., March 8, 13.—Chiloé Island: Quellon, four ♂♂ ad., two ♂♂ (first annual), ♂ juv., Dec. 29, Jan. 2, 4, 5, 27; Melinka, Ascension Island, Guaitecas Group, two ♂♂ ad., Feb. 1.—Llanquihue: Rio Ñirehuau, ♀ juv., March 17.

Additional specimens.—Atacama: Copiapó, juv. F. J. Meyen (Berlin Museum).—Llanquihue: Fundo Esmeralda, near Rio Negro, Dept. Osorno, ♀ ad., June 25, 1922. R. Bohnenberger (Munich Museum).

Young birds in spotted plumage were obtained at Curacautin on January 11, near Lake Gualletué on February 22, at Máfil on February 14, at Ríñihue on March 13, and on Chiloé Island on December 29. Two specimens, a male from Máfil, Valdivia, February 19, and a female from Rio Ñirehuau, Llanquihue, March 17, are in full juvenile molt.

Adult birds in worn breeding plumage, taken between October and February, when compared to freshly molted specimens, as represented by skins from Coquimbo (July 8) and Pilen Alto, Maule (May 13), are very much paler underneath, the chest and sides being pale grayish drab and the middle of the belly pinkish buff, and also more grayish above without brownish or olivaceous tone. A series of breeding birds collected by Dr. Adolf Lendl at Bariloche, Lake Nahuel Huapi, is precisely similar, while three females in exceedingly fresh plumage, secured by E. Budin in April, 1918, at

Puesto Burro, Chubut, in their saturated coloration, match Chilean birds in corresponding livery.

The juvenile plumage is likewise variable in intensity of coloring, the extremes being represented by No. 62,176, Lake Gualletué, Cautin, with cartridge buff, and No. 62,181, Quellon, Chiloé, with deep ochraceous-buff under parts, while the remaining examples exhibit intermediate shades of buff. The upper parts, too, vary to a certain extent, being either grayish or decidedly brownish with the light markings whitish and bright buff respectively.

In view of the great seasonal and individual variation of the Chilean Robin, it seems to me that the characters claimed to distinguish the recently separated *T. magellanicus pambertoni* Wetmore¹ need further investigation.²

T. f. magellanicus is abundant throughout the central and southern parts of Chile, ranging north to Atacama. Meyen, in March, met with large numbers at Copiapó, while Sanborn found it common at Vallenar, early in August, 1923. According to Gigoux, it is an irregular winter visitor at Caldera. In the south, its breeding range extends to the Straits of Magellan and Tierra del Fuego, and on the eastern slope of the Andes at least as far north as Lake Nahuel Huapi.

From typical *T. f. falklandii*, its representative on the Falkland Islands, it merely differs by much smaller bill, less brownish back, and much paler under parts.

[*Turdus "leucomelas"* [= *T. amaurochalinus* Cabanis], of which two specimens from "Chile" are listed by Seebohm (Cat. B. Brit. Mus., 5, p. 214, 1881), does not occur in that country.]

2. *Turdus chiguanco chiguanco* Lafresnaye and d'Orbigny

Turdus chiguanco Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 16, 1837—"Tacna, rep. Peruviana" (types in Paris Museum examined); d'Orbigny, p. 201, pl. 9, fig. 2, 1836—from Tacna up to Palca, Prov. Tacna; Sclater (4), 1886, p. 396—Sibaya, Tarapacá; E. Reed (4), p. 199—Chile; Albert (1), 100, p. 887—"central" and northern Chile.

Turdus fuscoater (not *Turdus fuscater* Lafresnaye and d'Orbigny) Philippi and Landbeck, Arch. Naturg., 26, (1), p. 284—"Taena in Peru" [= Tacna]; idem, Anal. Univ. Chile, 18, p. 33—Tacna; Philippi (24), p. 20—Tacna.

¹Univ. Calif. Pub. Zool., 21, p. 335, 1923—Cerro Anecon Grande, Rio Negro.

²Since writing the above, I have examined the typical series and found it inseparable from *magellanicus*.

Range in Chile.—Extreme north, in provinces of Tarapacá and Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., June 18, 1924.

Additional material.—Tacna: Tacna, three unsexed adults (types of the species). D'Orbigny (Paris Museum).—Tarapacá: Sibaya, (alt. 8,300 feet), ♀ ad. (in worn breeding plumage), January 10, 1886. Rahmer (British Museum).

Since discussing this species in our "Review of the Birds Collected by Alcide d'Orbigny,"¹ we have had an opportunity of examining much additional material, including the specimens in the British Museum. Birds from the coast region of southern Peru (Islay, Catarindos Valley, and Arequipa, Dept. Arequipa) are certainly inseparable from those of Chile, which typically represent *T. chiguanco*; but whether the inhabitants of the more northern districts of Peru can be distinguished, is still an open question. When making comparisons, particular care must be taken in selecting specimens in corresponding plumage, since wear and seasonal changes materially affect coloration. Three skins from Islay agree, in small size, with the types from Tacna; an adult female in fresh plumage from Arequipa, June 15, 1867, and another in worn breeding condition, from Sibaya, Tarapacá, Jan. 10, 1886, are slightly larger; but our adult male from Putre, Tacna, which has just completed its annual molt, has much longer wings and cannot be told, on this score, from numerous individuals taken in central and northern Peru.

As far as coloration is concerned, most of the characters mentioned in our former communication¹ as distinctive features of the Tacna birds, fail to hold in the series now available, and this view is also supported by Chapman² who mainly relies on size for discriminating two races of this thrush. The few specimens in fresh plumage which we have seen from the coast of southern Peru and Chile are perhaps more grayish (less tinged with olivaceous) and have less orange suffusion on the under wing coverts than birds from other parts of Peru, though in the latter respect they are closely approached by one from Matucana (above Lima) and another from Macate (Ancachs).

For comparison with the table of measurements given by ourselves¹ and Chapman,² we append the figures of specimens examined in the present connection.

¹Nov. Zool., 28, p. 235, 1921.

²Bull. Amer. Mus. N. H., 55, p. 583, 1926.

MEASUREMENTS

| Adult males | Wing | Tail |
|--------------------------------------|-------------------------|-------------------------|
| One from Putre, Tacna | 138 | 115 |
| One from Catarindos Valley, Arequipa | 124 | 99 |
| One from Islay, Arequipa | 126 | 105 |
| Two from Matucana, Lima | 135, 135 | 112, 115 |
| Four from Macate, Ancachs | 129, 130, 133, 136 | 108, 112, 116, 116 |
| One from Huánuco, Huánuco | 137 | 121 |
| One from Huánuco Mountains | 139 | 120 |
| One from Huánuco Viejo, Huánuco | 132 | 110 |
| Two from Hacienda Llagueda, Otuzco | 130, 142 | 115, 120 |
| Adult females | | |
| One from Sibaya, Tarapacá | 130 | 108 |
| One from Islay, Arequipa | 120 | 96 |
| One from Arequipa | 133 | 112 |
| One from Matucana, Lima | 132 | 107 |
| Five from Macate, Ancachs | 130, 130, 131, 134, 134 | 110, 113, 114, 115, 118 |
| Unsexed adults | | |
| Three from Tacna (types) | 120, 124, 125 | 102½, 103, 110 |

The Chilean range of *T. c. chiguanco* is restricted to the provinces of Tarapacá and Tacna in the extreme north of the republic. While Sanborn and Rahmer obtained their specimens at considerable altitudes, d'Orbigny met with this thrush even in the vicinity of Tacna at about 1,700 feet above sea level.

3. *Turdus chiguanco anthracinus* Burmeister

Turdus anthracinus Burmeister, Journ. Orn., 6, p. 159, 1858—Mendoza.

Turdus fusco-ater (not *T. fuscater* Lafresnaye and d'Orbigny) Philippi (12), p. 260—near Santiago; Landbeck (9), p. 246—Chile.

Turdus fuscater E. Reed (4), p. 198—Chile.

Range in Chile.—Occasional straggler in the vicinity of Santiago.

The only basis for the inclusion of this species in the Chilean fauna is Philippi's statement that in the spring of 1867 two specimens were caught alive in the vicinity of Santiago. Landbeck also says that it is rarely met with as an occasional straggler from Mendoza, where it is abundant. Seeböhm (Cat. B. Brit. Mus., 5, p. 243, 1881) lists a specimen alleged to have been taken by Bridges in Chile, but this locality is doubtless incorrect, since Bridges (Proc. Zool. Soc. Lond., 11, p. 120, 1843) expressly states that "*T. fuscater*"—a name long misapplied for the thrush now known as *T. c. anthracinus*—"inhabits the vicinity of Mendoza and is not found on the western side of the Andes." Reed (Ibis, 1893, p. 595) denies its occurrence in Chile, but later (Anal. Univ. Chile, 93, p. 198) admits it in his catalogue of Chilean birds.¹

¹Päessler (Journ. Orn., 70, p. 474, 1922) attributes some nests found at Coronel to "*T. fuscater*," but the identification of the species is altogether uncertain, the parent birds not having been secured.

[*Turdus pallidus* Peale (U. S. Expl. Exp., 8, p. 86, 1848) from "Valparaíso" and *Turdus subcinereus* Sclater (P. Z. S. Lond., 1866, p. 320) supposed to be Chilean turned out to have been based on two species of the Australian genus *Collyriocichla*.]

4. *Mimus thenca* (Molina)

Turdus Thenca Molina, Saggio Stor. Nat. Chile, pp. 250, 345, 1782—Chile; Meyen, p. 75—Santiago; Kittlitz (3), pp. 121, 135, 147—Concepción and Valparaíso.

Orpheus australis Lesson in Bougainville, Journ. Navig. Thétis, 2, p. 328, 1837—Valparaíso (new name for *Turdus thenca* Molina).

Orpheus thenca d'Orbigny, p. 209, pl. 10, fig. 3—Valparaíso.

Mimus thenca Darwin, p. 61—part, northern and central Chile, south to the neighborhood of Concepción; Fraser (1), p. 111—habits; Des Murs (2), p. 333—Chile; Cassin, p. 183—common in Chile; Frauenfeld, p. 637—near Santiago; Germain, p. 311—Santiago (breeding notes); Sclater (2), 1867, pp. 320, 337—Chile; Philippi (12), p. 260; Sclater and Salvin, Ibis, 1870, p. 499—Coquimbo; Landbeck (9), p. 247—common in Cauquenes; E. Reed (2), p. 541—Cauquenes, Colchagua; Sharpe, p. 7—Coquimbo; Allen, p. 78—Valparaíso; Lataste (1), p. CXIV—Bureo, Ñuble; p. CXV—Ninhue, Maule; idem (4), p. XXXIII—Caillihue, Curicó; Waugh and Lataste (1), p. LXXXV—Peñaflor, Santiago; idem (2), p. CLXXI—San Alfonso (Quillota), Valparaíso; E. Reed (4), p. 199—Chile; Lane, p. 9—Hacienda Mansel and Melipilla, Santiago; Albert (1), 100, p. 890—Chile (monog.); Schalow (2), p. 730—Ovalle, near Coquimbo, and Santiago (eggs descr.); C. Reed (1), p. 18—Chiguayante and Hualqui, Concepción; Barros (4), p. 148—Ñlahue, Curicó; idem (5), p. 187—Los Andes, Los Leones, and Los Piuquenes, Acónicagua; Housse (2), p. 146—San Bernardo, Santiago; Pässler (3), p. 473—Coronel (habits, nest, and eggs); Wetmore (3), p. 353—Concon; Jaffuel and Pirion, p. 108—Marga-Marga, Valparaíso; Bullock (3), p. 125—Nahuelbuta, Malleco; idem (4), p. 184—Angol, Malleco.

Mimus patagonicus (errore) Bibra, p. 129—Valparaíso.

Mimus thenca Pelzeln (2), p. 73—Chile.

Range.—From southern Atacama to Cautin.

Material collected.—Atacama: Domeyko, ♂ ad., Aug. 14.—Coquimbo: Romero, ♂ ad., July 17; Paiguano, ♂ ad., June 14.—Aconcagua: Los Andes (alt. 830 meters), ♂ ad., two ♀ ♀ ad., May 22, 26, 1925, Oct. 12, 1924. R. Barros.—Colchagua: Baños de Cauquenes, ♂ ad., May 3.—Maule: Quirihue, ♂ ad., April 29.—Concepción: near coast, ♀ ad., April 4; Hacienda Gualpencillo, two ♂ ♂ ad., ♀ ad., March 28, April 4.

Additional specimens.—Valparaíso: Valparaíso, five adults. D'Orbigny (Paris Museum).—Cautin: Pelal, near Temuco, ♂ ad.,

three ♀ ♀ ad., May 7, June 18, July 27. A. C. Saldaña (British Museum); Cholchol, near Temuco, ♂ (molting), March 12, 1906. D. S. Bullock (British Museum); Maquehue, near Temuco, three ♀ ♀ ad., April 23, June 8, August 17. D. S. Bullock (British Museum).

Birds from Aconcagua, Coquimbo, and Atacama are somewhat paler, less brownish above, with hardly any cinnamomeous suffusion on the rump, and much less buffy underneath, the chest being strongly washed with grayish. However, this apparent difference may be seasonal, as the majority of our northern birds are in more worn plumage than those from the south.

M. thenca is most nearly related to *M. l. longicaudatus* Tschudi, of western Peru, but differs by smaller bill, much shorter tail, less spotted back, and mostly blackish, instead of for the greater part white, primary coverts.

Its range is restricted to the central provinces of Chile, extending from extreme southern Atacama (Domeyko, near Algarrobal) south to about 39° S. latitude.¹ Sanborn observed it at Victoria, Malleco, and D. S. Bullock found it breeding in Malleco and Cautin.

The "Trenca" is reported to be common from near sea level up to 6,000, rarely 7,000 feet elevation.

[*Mimus (Orpheus) leucospilos* Pelzeln (Sitzungsber. math.-naturw. Cl. Ak. Wiss. Wien, 31, p. 323, 1858), erroneously credited to "Chile," is synonymous with *M. l. longicaudatus* Tschudi, which is confined to western Peru. The type in the Vienna Museum agrees with specimens from Ica.]

5. *Mimus triurus* (Vieillot)

Turdus triurus Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 20, p. 275, 1818—based on Azara, No. 224, Paraguay.

Mimus triurus Philippi (12), p. 260—Santiago and Valdivia; Landbeck (9), p. 247—Valdivia and Santiago; E. Reed (4), p. 199—Chile; Albert (1), 100, p. 893—Chile (monog.).

Range in Chile.—Occasional visitor in the central and southern provinces.

This mocking-bird, common on the Argentine side of the Andes, is evidently a rare straggler to Chile. Landbeck states having shot

¹The Paris Museum has a skin, labeled "No. 72. Gobe-mouche gris. Port Famine, 215. Astrolabe," which agrees perfectly with specimens from Valparaíso. If the locality is correct, which we doubt, the bird must have been a straggler, for this mocking-bird has never been met with again in the Straits of Magellan.

it once near Valdivia and several times in the vicinity of Santiago. Although its occurrence in Chile was denied by both Bridges¹ and E. Reed,² this latter author, in a subsequent communication,³ admits it to the Chilean fauna.

"*Mimus albicaudus* Philippi," quoted by Albert in the synonymy of *M. triurus*, appears to be an unpublished manuscript name.

6. *Troglodytes musculus chilensis* Lesson⁴

Troglodytes chilensis Lesson, Voyage "Coquille," Zool., 1, (2), p. 665, April, 1830—vicinity of La Concepción, Chile.

Thriothorus rosaceus Lesson, Rev. Zool., 3, p. 262, 1840—part, Chile; Des Murs in Gay, p. 310 (ex Lesson).

Troglodytes guarixa Des Murs in Gay, Hist. fis. pol. Chile, Zool., 1, p. 312, 1847—based on *Troglodytes chilensis* Lesson, from La Concepción.

Troglodytes musculus acosmus Oberholser, Proc. U. S. Nat. Mus., 27, p. 204, 1904—central Chile (type in U. S. National Museum examined).

Troglodytes platensis (not *Sylvia platensis* Latham) d'Orbigny, p. 231—part, Valparaíso; Des Murs in Gay, p. 311—Chile; Boeck, p. 500—Valdivia; Germain, p. 310—Santiago (nest and eggs); Lataste (1), p. CXV—Ninhue, Maule; Waugh and Lataste (1), p. LXXXV—Peñaflor, Santiago; idem (2), p. CLXXI—San Alfonso, Quillota.

Troglodytes magellanicus Darwin, p. 74—central Chile; Fraser (1), p. 111—Chile generally (eggs); Hartlaub (3), p. 211—Valdivia; Sclater (2), 1867, pp. 321, 337—Chile; Landbeck (9), p. 241 (habits); E. Reed (4), p. 199—Chile; Bullock (4), p. 185—Angol, Malleco.

Troglodytes furrus E. Reed (2), p. 542—Cauquenes, Colchagua.

Troglodytes hornensis (not of Lesson) Albert (1), 103, p. 215—Chile (monog., part).⁵

Cistothorus platensis (errore) Barros (4), p. 148—Nihue, Curicó; idem (5), p. 187—Aconcagua, up to 2,200 meters alt.; Housse (1), p. 48—Isla La Mocha; idem (2), p. 146—San Bernardo; Jaffuel and Pirion, p. 108—Marga-Marga, Valparaíso.

Troglodytes musculus chilensis Wetmore (3), p. 348—Concon; Chapman and Griscom, Bull. Amer. Mus. N. H., 50, p. 299, 1924—part, Corral, Temuco (Cautin), near Santiago, and Valparaíso; Passler (3), p. 472—Coronel (nesting habits).

Range in Chile.—Central and southern parts, from Aconcagua to the Straits of Magellan; in winter accidental in Atacama.

¹P. Z. S. Lond., 13, p. 120, 1843.

²Ibis, 1893, p. 595.

³Anal. Univ. Chile, 93, p. 199, 1896.

⁴See Hellmayr, Nov. Zool., 28, p. 275, note 3, 1921.

⁵Description only, the notes on habits being referable to *Cistothorus platensis hornensis*.

Material collected. —Atacama: Caldera, ♀ ad., June 4. E. Gigoux. —Valparaiso: Olmué, ♂ ad., ♀ ad., June 1, 3.—Colchagua: Baños de Cauquenes, two ♂♂ ad., ♀ ad., May 2, 3.—Concepción: Hacienda Gualpencillo, ♂ ad., two ♀♀ ad., April 6, 16.—Malleco: Curacautin, two ♂♂ ad., Jan. 9, 10; Rio Colorado (alt. 3,000 feet), ♀ juv., Feb. 3.—Cautin: Villa Portales (alt. 3,300 feet), ♂ ad., Feb. 28; Lake Gualletué (alt. 3,800 feet), ♂ juv., Feb. 21.—Valdivia: Máfil, two ♂♂ ad., two ♂♂ imm., three ♂♂ juv., ♀ juv., Feb. 15, 16, 18, 20, 22, 24, 27, 28.—Llanquihue: Puerto Montt, two ♂♂ ad., April 14, 17; Rio Ñirehuau, ♀ ad., ♂ imm., Feb. 16, March 17.—Chiloé Island: Quellon, six ♂♂ ad., one ♂ juv., one ♀ ad., Dec. 29, Jan. 1, 3, 5.—Guaitecas Islands: Melinka, Ascension Island, one ♂ ad., one ♂ imm., two ♂♂ juv., Jan. 31, Feb. 1.

Additional specimens.—Valparaiso: Concon, ♂ ad., ♀ ad., April 27, 28, 1921. A. Wetmore (U. S. National Museum).—Valdivia: Valdivia, two ♂♂ ad., one (unsexed) adult, 1897. A. von Lossberg (Munich Museum).—Chiloé: Ancud, two ♂♂ ad., one (unsexed) adult, April 10, May 4, June 17, 1914. R. H. Beck (American Museum of Natural History, New York).

Study of this extensive material tends to show that there is but one race of House Wren in central and southern Chile, and that the distinction of *T. m. magellanicus* cannot be maintained.

Topotypes from Concepción are rather dark above,¹ and have the under tail coverts heavily marked with black and white, while their bills are of moderate length. Specimens from farther south, while agreeing in coloration of upper parts, as a rule have the under tail coverts either uniform or but slightly marked, and the bill slightly smaller, this being most noticeable in birds from the Straits of Magellan. The decrease in bill measurements, however, is very slight, at the same time obliterated by individual variation, and, besides, so gradual that it is impossible to draw a line. Even the coloration of the under tail coverts does not afford a reliable criterion for *T. m. magellanicus*. They are wholly unmarked in six skins from the Straits (False Cape Horn; Londonderry Island; Punta Arenas), one from Rio Ñirehuau, one from Melinka, one from Puerto Montt, four from Chiloé Island, one from Máfil, two from Valdivia, and one from Malleco (Curacautin); more or less spotted with black and white in three from the Cape Horn region, one from Puerto Montt, five from Chiloé Island, two from Valdivia,

¹In making comparisons, care should be taken to use specimens in freshly molted plumage only.

one from Malleco (Curacautin) and three from Concepción. Birds from central Chile (Colchagua, Valparaíso) are on average paler, brighter brownish (less sooty) above, though several specimens from the south, particularly an adult male from Ancud, Chiloé (American Museum of Natural History, No. 166,299) match them exactly. The under tail coverts are always spotted in the northern birds, which, furthermore, by slightly longer bills, exhibit a certain tendency in the direction of *T. m. atacamensis*. The type of *T. m. eucosmus*—collected by Edwyn Reed—agrees perfectly with skins from Valparaíso and Baños de Cauquenes, but I do not see how they can be separated from *chilensis*. The only practicable course appears to me to refer the whole series (from Valparaíso to the Straits of Magellan) to one form, whose earliest name is *T. chilensis*, based on an example from Concepción. Were we to express the trifling geographic variation in nomenclature, 60 to 75 per cent of the specimens designated by different names would be indistinguishable.

In Chile, *T. m. chilensis* ranges from sea level up to about 7,000 feet, and breeds towards the end of the year. Birds taken in December and January are in worn breeding plumage, and numerous juvenile specimens were secured in the months of January and February. This form is also widely diffused in southern Argentina, where its breeding area extends, in the west, as far north as Mendoza and Santa Fé. In winter it spreads north and eastward into Buenos Aires. Similar migrations, at least occasionally, appear to take place in Chile, for an adult female (in fresh plumage), secured by Mr. Gigoux at Caldera, Atacama, on June 4, 1924, is essentially like specimens from Concepción, and very different from the breeding race of the region.

MEASUREMENTS OF ADULT MALES

| | Wing | Tail | Bill |
|---|------------------------------------|--------------------------------|--|
| Seven from Straits of Magellan | 52(three), 53(four) | 42,42,44,45, 45,45,46 | 11,11,11,11 ¹ / ₂ , 11 ¹ / ₂ ,12,12 |
| One from Melinka, Guaitecas Islands | 52 | 44 | 12 |
| Eight from Chiloé Island | 50(three),51,52 (two),53,54 | 43-47 | 11,12(four), 13(two),— |
| Two from Puerto Montt, Llanquihue | 50 ¹ / ₂ ,52 | 45,47 | 12,12 ¹ / ₂ |
| Two from Valdivia | 52,54 | 47,50 | 12,12 |
| Two from Máfil, Valdivia | 52 ¹ / ₂ ,— | 45,— | 12 ¹ / ₂ ,13 |
| One from Villa Portales, Cautin | 53 | 46 | 12 |
| Two from Curacautin, Malleco | 52,55 | 43,45 | 11 ¹ / ₂ ,12 ¹ / ₂ |
| One from Concepción | 52 | 43 ¹ / ₂ | 12 ¹ / ₂ |
| Two from Baños de Cauquenes, Colchagua | 52 ¹ / ₂ ,54 | 47,47 | 13,13 |
| Two from Valparaíso | 50,53 | 46,47 | 13,13 |

7. *Troglodytes musculus atacamensis* Hellmayr

Troglodytes musculus atacamensis Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 12, p. 74, 1924—Rio Loa, Antofagasta, Chile.

Troglodytes furrus (not *Motacilla furva* Gmelin) Salvin, 1883, p. 419—Coquimbo.

Troglodytes hornensis (not of Lesson) Philippi, Ornith., 4, p. 158—Antofagasta.

Troglodytes platensis (not *Sylvia platensis* Latham) Gigoux, p. 86—Caldera, Atacama.

Troglodytes musculus chilensis Chapman and Griscom, Bull. Amer. Mus. N. H., 50, p. 299, 1924—part, Tofo, sixty miles north of Coquimbo.

Range.—Northern Chile, in provinces of Coquimbo, Atacama, and Antofagasta.

Material collected.—Atacama: Caldera, four ♂♂ ad., two ♀♀ ad., March 22, April 11, May 4, 25, Aug. 28, 31; Ramadilla, Copiapó Valley, three ♂♂ ad., Aug. 22, 24.—Antofagasta: Rio Loa, two ♂♂ ad., Sept. 12, 13.

Additional specimens.—Coquimbo: Tofo, sixty miles north of Coquimbo, two ♂♂ ad., one ♀ juv., Nov. 12, Dec. 17, 1916. Th. Hallinan (American Museum of Natural History, New York).

This is a northern representative of *T. m. chilensis*, from which it differs by decidedly slenderer, also somewhat longer bill and paler coloration. The upper parts are (unbarred) pale grayish brown, much less sooty, very rarely with a slight rufescent tinge; the rump and tail coverts lighter rufous; wings and tail less rufescent; the under parts paler isabelline, with throat and middle of the abdomen more whitish, and the flanks and crissum lighter ochraceous. It approaches *T. m. tecellatus*, from Tacna, in grayish back and shape of bill, but may be distinguished by brighter rufous rump, more rufescent, less broadly barred tail, less whitish under parts, and by lacking all trace of blackish bars on either back or upper tail coverts. The under tail coverts are, as a rule, heavily marked with black and white, though in one or two specimens these markings are but faintly suggested.

As stated under the preceding form, certain specimens from Valparaiso come very close in length of bill and grayish dorsal surface, but, taken as a whole, the series from Atacama and Antofagasta is fairly separable by the characters given above. Two adults from Tofo, in exceedingly worn breeding plumage, are doubtless referable to *T. m. atacamensis*, one of the specimens, even in shade of grayish brown back, being closely similar to some of the Caldera birds. A juvenile (from Tofo) differs from the corresponding age of *T. m.*

chilensis, as represented by fourteen specimens from Malleco to Ascension Island, by decidedly lighter, more rufescent upper parts.

Wing of nine adult males 51–54, of one female 50; tail 43–47; bill 13 (three), $13\frac{1}{2}$ (five), 14, $14\frac{1}{2}$ mm.

T. m. atacamensis is peculiar to the semi-arid littoral of northern Chile, from Coquimbo to Antofagasta.

8. *Troglodytes musculus tecellatus* Lafresnaye and d'Orbigny

Troglodytes tecellatus Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 25, 1837—Tacna, Peru (type in Paris Museum examined); d'Orbigny, p. 232—Tacna Valley.

Range.—Extreme northern Chile, in province of Tacna, thence extending into southwestern Peru (depts. Moquegua and Arequipa).

Material collected.—Tacna: Chacalluta, six miles north of Arica, two ♂♂ ad., June 12, 14.

Additional specimens.—Tacna: Tacna, adult (not sexed). D'Orbigny (Paris Museum; the type); ♂ ad., Oct. 13, 1902. O. Garlepp; Asapa, near Arica, ♂ ad., Nov. 2, 1902. O. Garlepp (Berlepsch Collection).

This is a well-marked race by reason of its conspicuously barred back and upper tail coverts, much less rufescent rump, grayish rufescent tail with wider blackish bars, and very pale isabelline under parts, when compared with its geographical neighbors, *T. m. atacamensis* and *T. m. audax*, from the Peruvian littoral (Ica to Trujillo). There is, however, no justification in separating it specifically from the *T. musculus* group. Birds from the coast of Arequipa and Moquegua, which we have seen in the collection of the American Museum of Natural History, are, indeed, more strongly barred with black above than any other race, but the series from Tacna shows considerable variation in this respect. An adult male from Asapa, particularly, runs very close to *T. m. atacamensis* by having the scapulars only distinctly barred, while in the middle of the back these markings are quite obsolete. The tail pattern is likewise subject to individual variation, and the under tail coverts sometimes are hardly more spotted with black than in *T. m. chilensis*.

Measurements of five adult males from Tacna: wing 53–55; tail 40–44; bill $14\text{--}14\frac{1}{2}$.

9. *Cistothorus platensis hornensis* (Lesson)

Troglodytes hornensis Lesson, L'Institut, 2, No. 72, p. 316, 1834—"pris en mer, le 7 janvier 1831, à vingt lieues dans le sud-est du Cap Horn"; idem in

Bougainville, Journ. Navig. Thétis, 2, p. 327, 1837—same locality; Philippi (12), p. 256—Valdivia, Santiago; Waugh and Lataste (1), p. LXXXV—Peñaflor, Santiago.

Thryothorus eidouxi Bonaparte, Consp. Av., 1, p. 221, 1850—"Brasilia," errore—based exclusively on "Troglodyte des Marais? Wils. fem.," Voyage au Pôle Sud "Astrolabe" et "Zélée," Atlas, Zool., Ois., pl. 19, fig. 6, Oct., 1844—the type examined in the Paris Museum is from Talcaguano, Concepción.

Troglodytes eydouxi Jacquinot and Pucheran, Voyage au Pôle Sud "Astrolabe" et "Zélée," Zool., 3, p. 94, 1853—Talcaguano, Chile.

Cistothorus platensis (not *Sylvia platensis* Latham) Sclater (2), 1867, pp. 321, 337—Chile; Landbeck (9), p. 241; Sharpe, Cat. B. Brit. Mus., 6, p. 244, 1881—Santiago; E. Reed (2), p. 542—Cauquenes; idem (4), p. 199—Chile; Albert (1), 103, p. 218—Chile (monog., part);¹ Bullock (4), p. 185—Angol, Malleco.

Cistothorus platensis hornensis Páessler (3), p. 471—Coronel (habits, nest, and eggs).

Range in Chile.—From Santiago to the Straits of Magellan.

Material collected.—Llanquihue: Rio Ñirehuau, ♂ ad., ♀ ad., March 1.—Chiloé Island: Quellon, ♂ imm., ♂ juv., Jan. 3, 27; Rio Inio, ♀ imm., Jan. 11.—Cautin: Villa Portales, Lonquimay Valley (alt. 3,300 feet), ♂ imm., Feb. 9.

Additional specimens.—Valdivia: Valdivia, ♀ ad., Dec., 1924. Fernando Ohde (Munich Museum).—Concepción: Concepción, adult (sex not determined). E. C. Reed (Tring Museum); Talcaguano, ♀ ad., 1841. Hombron and Jacquinot (type of *T. eidouxi*).—"Chile" (unspecified): three adults. E. C. Reed (Paris Museum).

The adult birds from the Rio Ñirehuau have the whole back, including the rump, broadly streaked with black and buffy white, the upper tail coverts distinctly barred with blackish, and the pileum mainly bright fulvous-brown (somewhat darker and browner than "Buckthorn brown") with narrow blackish streaks on posterior portion. The female has just completed its annual molt, while the male is changing the body plumage and flight-quills. Immature birds differ by more heavily striped pileum, narrower as well as deeper buff streaking of the back, and plain (unmarked) tawny-brown rump and upper tail coverts.

The distribution of the Marsh Wren in Chile is very imperfectly known, though from the meager data at hand it would seem to be more abundant in the southern parts of the country. The most northerly locality on record is Santiago, where Landbeck obtained

¹ Description only, the notes on habits refer to *Troglodytes musculus chilensis*.

specimens, one of which passed into the collection of the British Museum. Lataste also secured two at Peñafior, and E. C. Reed lists it from Colchagua (Cauquenes). Farther south it appears to be more frequently met with. There are various records from the Bay of Concepción (Concepción, Talcaguano),¹ Valdivia, Straits of Magellan (Gregory Bay), Tierra del Fuego, and Falkland Islands. Pässler found it breeding at Coronel, while Bullock lists it as an uncommon visitor in the Angol district of Malleco. On the Argentine side of the Andes it is known to occur at Bariloche, Lake Nahuel Huapi (Terr. del Neuquen), at Arroyo Los Bayas (Terr. del Rio Negro), and at Lago Blanco, in extreme western Chubut.

Its nomenclature, range, and distinctive characters have been fully discussed in another place.²

10. *Anthus correndera chilensis* (Lesson)

Corydalla chilensis Lesson, Rev. Zool., 2, p. 101, 1839—Chile; idem, Oeuvr. Compl. Buffon, éd. Lévêque, 20 [=Descr. Mammif. et Ois.], p. 298, 1847—Chile; Des Murs in Gay, p. 325 (ex Lesson).

Anthus Chii (not of Vieillot) Kittlitz (3), pp. 163, 178—Lagunilla Valley and Quillota, Valparaíso.

Anthus furcatus (not of Lafresnaye and d'Orbigny) Pelzeln (2), p. 69—Chile (spec. in Vienna Museum examined).

Anthus correndera (not of Vieillot) Darwin, p. 85—part, Chile; Fraser (1), p. 112—Chile; Frauenfeld, p. 636—near Santiago; Sclater (2), 1867, pp. 321, 337—Chile; Philippi (12), p. 258; E. Reed (2), p. 542—Cauquenes, Colchagua; Landbeck (9), p. 244; Salvin (2), p. 419—Coquimbo; Waugh and Lataste (1), p. LXXXV—Peñafior, Santiago; idem (2), p. CLXXI—San Alfonso, Quillota; E. Reed (4), p. 199—Chile; Schalow (2), p. 728—Tumbes, near Concepción; Albert (1), 101, p. 934—Chile (monog.); Barros (5), p. 187—Los Andes, Aconcagua; Housse (2), p. 145—San Bernardo; idem (3), p. 226—Isla La Mocha; Barros (8), p. 142—Nilahue, Curicó; Bullock (4), p. 185—Angol, Malleco; Barros (10), p. 362—Aconcagua.

Anthus correndera chilensis Pässler (3), p. 475—Coronel (nest and eggs); Wetmore (3), p. 363—near Concon.

Range.—From Atacama (Copiapó Valley) to the Straits of Magellan.

Material collected.—Atacama: Ramadilla, Copiapó Valley, three ♂♂ ad., Aug. 22, 25.—Coquimbo: Romero, four ♂♂ ad., two ♀♀ ad., July 15, 19, 22, 30.—Santiago: Bатуco, ♂ ad., Aug. 3, 1924. C. S. Reed.—Concepción: Hacienda Gualpencillo, two ♂♂ ad., two

¹"*Troglodytes parvus*" (sic), listed by Housse (Rev. Chil. Hist. Nat., 29, p. 226) from the Isla La Mocha, may also refer to this species.

²Hellmayr, Nov. Zool., 28, p. 252, 1921.

♀ ♀ ad., March 27, 31, April 3, 6; near coast, two ♂ ♂ ad., April 8, 14.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ ad., two ♀ ♀ ad., three ♂ ♂ juv., Feb. 15, 18, 20.—Llanquihue: Casa Richards, Rio Ñirehuau, ♀ ad., Feb. 24.

Additional specimens.—Coquimbo: Ovalle, adult, Sept., 1893. L. Plate (Berlin Museum).—Santiago: Santiago, three ♂ ♂ ad., one ♀ ad., June, July, 1872. E. C. Reed (Frankfort Museum).—Concepción: Tumbes, ♂ ad., June, 1894. L. Plate (Berlin Museum).—Valdivia: Valdivia, two (unsexed) adults. A. von Lossberg (Frankfort Museum).

Specimens collected in March and April at Concepción are in freshly molted plumage. The series from Romero (Coquimbo) and the Copiapó Valley (Atacama) taken in July and August show marked traces of wear, while the adult birds secured in February at Lake Gualletué, Cautin, and on the Rio Ñirehuau, are in exceedingly worn breeding condition. Compared to the Concepción skins, they are much less buffy throughout, the under parts especially being much whiter with less buffy suffusion on the chest, and the edges to the dorsal plumage being paler and more whitish. In proportions, shape, and length of hind claw as well as in pattern of lateral rectrices, however, specimens from different localities are perfectly alike, and the variation in color is doubtless merely seasonal.

Three birds taken at Lake Gualletué on February 15 and 20 are in the juvenile plumage, characterized by roundish, buffy white edges on the mantle and coarse, blackish markings on breast and sides.

This pipit inhabits the plains and foothills, its altitudinal range not reaching much beyond 4,000 feet.

A. correndera chilensis is closely related to the typical race, widely distributed throughout Argentina, Paraguay, and southern Brazil, but may be distinguished by its more buffy coloration. Its range extends south to the Straits of Magellan and Tierra del Fuego, since two birds from the pampas near Punta Arenas are inseparable from the Chilean series.

On the Falkland Islands it is replaced by *A. correndera grayi* Bonaparte,¹ a larger form with stronger bill and smaller pectoral markings.

¹*Anthus grayi* Bonaparte (Consp. Av., 1, p. 249, 1850) long antedates *Anthus philippsi* Brooks (Proc. New Engl. Zool. Cl., 6, p. 26, 1916). Its sole basis is *Alauda novae zealandiae*, var. β , of Latham (Ind. Orn., 2, p. 497, 1790), which, in its turn, is based on "Cinereous Lark" (of the Falkland Islands) in Portlock, "Voyage round the World," 1789, plate facing p. 38. Here we find a rather poor, but recognizable figure of the Falkland Island Pipit, which the author believed to be "a variety of the Lark found at New Zealand." The type locality is near Port Egmont.

11. *Anthus correndera catamarcae* Hellmayr

Anthus correndera catamarcae Hellmayr, El Hornero, 2, p. 186, 1921—Lago Colorado (alt. 3,400 meters), Catamarca, Argentina.

Anthus chii (not of Vieillot) Philippi, Ornith., 4, p. 159—Antofagasta.

Anthus calcaratus (not of Taczanowski) Berlepsch and Leverkühn, Ornith., 6, p. 8, 1890—Calama, Antofagasta (spec. examined).

Range in Chile.—Puna Zone of Antofagasta, from 7,000 to 12,000 feet.

Material collected.—Antofagasta: Rio Loa (alt. 8,000 feet), five ♂♂ ad., one ♀ ad., Sept. 11, 12, 13, 14; Ojo de San Pedro (alt. 12,400 feet), ♂ ad., May 2; twenty miles east of San Pedro (alt. 12,600 feet), three ♂♂ ad., Oct. 6, 1923.

Additional specimens.—Antofagasta: Calama, ♀ ad., March 1, 1847. Professor Behn (Berlin Museum).

This long-clawed pipit of northern Chile is easily distinguished from *A. c. chilensis* by slightly longer wings and tarsi; decidedly longer, slenderer bill; darker (ochraceous-buff rather than warm buff) edges to the dorsal plumage, particularly on pileum and hind neck; much more ochraceous (near buckthorn-brown) rump; and more extensive as well as purer white area on the lateral rectrices, the dusky inner margin on the outermost pair being restricted to the extreme base and wholly concealed by the under tail coverts. Even birds in worn plumage, as represented by the series from Rio Loa, are more ochraceous above than *chilensis* in freshly molted livery. A female (just completing its annual molt) collected by Professor Behn at Calama on March 1, 1847, which I had an opportunity of examining through the good offices of Dr. E. Stresemann, of the Berlin Museum, agrees with our series which, in its turn, was directly compared to two examples from the Puna of Catamarca (Lago Colorado).

The range of this form thus appears to comprise the Puna region of northern Chile (Antofagasta) and extreme northwestern Argentina (Los Andes and Catamarca). It is closely related to *A. c. calcaratus* Tacz., of the Puna of Peru (Junín and Cuzco), but somewhat larger and not so brightly colored, especially underneath.

MEASUREMENTS

| <i>A. c. calcaratus</i> —Adult males | Wing | Tail | Bill |
|--|----------|----------|------------|
| Three from Ingapirca, Junín | 76,78,78 | 54,55,57 | 14,13½,13½ |
| <i>A. c. calcaratus</i> —Adult females | | | |
| Two from Anta, Cuzco | 73½,75 | 55,55 | 13,13½ |

| | Wing | Tail | Bill |
|---|----------------|----------------|------------------------------------|
| <i>A. c. catamarcae</i> —Adult males | | | |
| Three from Catamarca | 80,83,83 | 59,62,63 | 12 $\frac{1}{8}$, 13, 14 |
| Five from Rio Loa, Antofagasta | 79,80,81,82,82 | 58–62 | 12 $\frac{1}{2}$ –13 $\frac{1}{2}$ |
| Three from east of San Pedro, Antofagasta | 79,80,80 | 59,59,62 | 13,14,14 |
| <i>A. c. catamarcae</i> —Adult females | | | |
| Two from Catamarca | 78,78 | 57,57 | 13,14 |
| One from Calama, Antofagasta | 79 | 59 | 14 |
| One from Rio Loa, Antofagasta | 77 | 57 | 13 $\frac{1}{2}$ |
| <i>A. c. chilensis</i> —Adult males | | | |
| Three from Copiapó Valley, Atacama | 78,78,79 | 58,59,61 | 12,12,12 |
| Five from Coquimbo | 76,77,77,77,78 | 56,57,57,58,60 | 11 $\frac{1}{2}$ –12 |
| Four from Concepción | 74,75,78,79 | 58,59,59,60 | 11 $\frac{1}{2}$ –12 $\frac{1}{2}$ |
| One from Lake Gualletué, Cautin | 76 | 58 | 12 |
| <i>A. c. chilensis</i> —Adult females | | | |
| One from Coquimbo | 73 | 56 | 12 |
| Two from Lake Gualletué, Cautin | 73,74 | 52,53 | 12,12 $\frac{1}{8}$ |
| One from Rio Nirehuau, Llanquihue | 76 | 56 | 12 |

12. *Anthus hellmayri dabbenei* Hellmayr

Anthus hellmayri dabbenei Hellmayr, El Hornero, 2, p. 191, 1921—Rio Trafal, Gob. del Neuquen, Argentina.

Range in Chile.—Only recorded from Cautin (Lonquimai Valley).

Material collected.—Cautin: Rio Lolen (alt. 3,600 feet), Lonquimai Valley, ♀ juv., Feb. 11, 1924.—Wing 73; tail 55; tars. 22; hind claw 10; bill 10.

The taking in the Lonquimai Valley of a full-grown bird in juvenile plumage adds a hitherto unrecorded species to the Chilean fauna. In shape of bill and hind claw, pattern and color of lateral rectrices, and other features, it agrees perfectly with Argentine examples, but it is somewhat smaller, the bill and tail notably so, and more heavily streaked across the chest, variations doubtless due to immaturity.

The Lonquimai Valley is in the extreme eastern section of Cautin and separated from Argentina by a comparatively low ridge, as I am informed by Mr. Sanborn. It will be recalled that the type, a female in worn breeding garb, was taken on the banks of the Rio Trafal, Gob. del Neuquen, not far from the Chilean frontier, about two degrees farther south than the Lonquimai Valley, and lately I have examined in the British Museum an adult male in fresh plumage, obtained by J. Koslowsky in the Valle del Lago Blanco, western Chubut, on November 6, 1900.

A. h. dabbenei thus appears to breed in the mountain valleys along the Chilean-Argentine boundary line between 38° and 46°

S. latitude. In winter it migrates northward. Numerous specimens have been taken by J. Mogensen between May and August, 1918, at Concepción, Tucumán, and an adult male was shot by Robin Kemp on October 18, 1916, at Las Rosas, Prov. Santa Fé (Field Museum, No. 63,035).

13. *Anthus lutescens peruvianus* Nicholson

Anthus peruvianus Nicholson, P. Z. S. Lond., 1878, p. 390—Catarindos Valley, near Islay, Dept. Arequipa, Peru (type in British Museum examined).

Range in Chile.—Extreme north, in province of Tacna.

Material collected.—Tacna: Chacalluta, six miles north of Arica, three ♂♂ ad., two ♀♀ ad., June 12, 14, 16, 21.—Wing 67–68, (females) 65, 66; tail 43, 46, 49, (females) 43, 45; bill $11\frac{1}{8}$ –12.

These specimens, which are in slightly worn plumage, agree in every respect with a series from the coast region of Arequipa, with which they were directly compared. In both series the light-colored area of the lateral tail feathers varies from buffy white to pale gray. There is also a certain variation in the amount of the buffy suffusion on the chest and sides, but this, too, appears to be purely individual. Birds from Lima and Trujillo are similar.

A. lutescens peruvianus differs from the typical race by averaging larger; paler upper parts with more whitish (less buffy) markings on the wing coverts; broader as well as more whitish edges to the lateral interscapulars; whiter under parts with paler, if any, buff suffusion across chest and along flanks; and by having the dusky margin to the basal portion of the inner web of the lateral rectrices barely suggested.

Its range is restricted to the littoral of western Peru and extreme northern Chile. It had not previously been recorded from the latter country.

[*Anthus furcatus* Lafr. and d'Orb. included by Des Murs (in Gay, p. 324) does not occur in Chile.]

14. *Dendroica striata* (Forster)

Muscicapa striata Forster, Philos. Trans., 62, pp. 406, 428, 1772—Fort Severn (west coast of Hudson Bay).

Dendroica atricapilla Landbeck, Arch. Naturg., 30, (1), p. 56, 1864—Collico, near Valdivia; idem, Anal. Univ. Chile, 24, p. 336, April, 1864—near Valdivia; Sclater (2), 1867, pp. 321, 337—Chile; Philippi (12), p. 257—near Valdivia; Landbeck (9), p. 242—near Valdivia; Philippi (24), p. 41, pl. 23, fig. 1—Chile.

Dendroica striata E. Reed (4), p. 199—Chile; Albert (1), 103, p. 211—Valdivia.

Range in Chile.—Casual winter visitor.

A single adult male in nuptial plumage was shot by L. Landbeck at Collico, near Valdivia, on June 17, 1858, a very unusual date for this North American Warbler. The locality, moreover, is far outside its known winter range, and I cannot help thinking it might have been an escaped cage-bird.

15. *Progne elegans* Baird¹

Progne elegans Baird, Rev. Amer. Birds, 1, p. 275, 1865—Rio Vermejo, Argentina (=juv.).

Progne furcata Baird, Rev. Amer. Birds, 1, p. 278, 1865—Chile (=adult); Sclater (2), 1867, pp. 321, 337—Chile (ex Baird); Philippi, P. Z. S. Lond., 1868, p. 531—Chile (crit.); E. Reed, Ibis, 1893, p. 595; idem (4), p. 199—Paine, O'Higgins; Albert (1), 100, p. 879 (monog.).

Range in Chile.—Once recorded from Paine, O'Higgins.

Although Philippi denies its occurrence, E. C. Reed states that *P. furcata* "has been shot several times in Chile," and, in his "Catalogo de las Aves Chilenas," definitely mentions Paine, O'Higgins, as the locality where various specimens of this Martin have been taken.²

We have not seen any Chilean material.

P. elegans is widely distributed in Bolivia and Argentina, but the exact limits of its breeding range have yet to be worked out.³

16. *Pygochelidon patagonica patagonica* (Lafr. and d'Orb.)

Hirundo patagonica Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 69, 1837—Patagonia (type in Paris Museum examined).

Hirundo cyanoleuca (not of Vieillot),⁴ Darwin, p. 41—Valparaiso; Des Murs (2), p. 267; Sclater (2), 1867, p. 321; Philippi (12), p. 248; Landbeck (9), p. 235.

¹For the substitution of *P. elegans* vs. *P. furcata*, see Todd, Auk, 42, p. 276, 1925.

²Bridges (P. Z. S. Lond., 11, p. 120, 1843) also lists "*P. purpurea*" [= *P. elegans*] among the species found at Mendoza, but not on the Chilean side of the Andes.

³Laubmann's record of *P. chalybea domestica* from Valdivia, Chile (in Krieg, Ergeb. Deuts. Chaco Exp., Vogel, p. 306, 1930), I am informed by the author, is due to a mistake. The specimen actually originated in Misiones, Argentina.

⁴As suggested by Wetmore (Bull. U. S. Nat. Mus., 133, pp. 343-344, 1926), it is quite possible that Azara's No. 303, on which *Hirundo cyanoleuca* Vieillot is based, may apply to the swallow universally called *P. patagonica*, but pending the receipt of a satisfactory series from Paraguay it seems best not to make any nomenclatorial change at present.

Atticora cyanoleuca Sclater (2), 1867, pp. 321, 337—Chile; E. C. Reed (2), p. 543—Hacienda de Cauquenes; Salvin (2), p. 420—Coquimbo; Sclater (4), 1886, p. 397—Huasco, Tarapacá; Lane, p. 15—Sacaya, Tarapacá; E. Reed (4), p. 199—Chile; Albert (1), 100, p. 870; Schalow (2), p. 728; Pässler (3), p. 470—Coronel; Bullock (4), p. 183—Angol, Malleco (nest).

Hirundo melampyga (not of Lichtenstein) Philippi (24), p. 24, pl. 20, fig. 3.

Pygochelidon cyanoleuca patagonica Barros (4), p. 147—Nilahue, Curicó; idem (5), p. 186—Los Andes and Rio Blanco, Aconcagua.

Pygochelidon patagonica Bullock, El Hornero, 3, p. 93—Chile (nest).

Pygochelidon patagonica patagonica Barros (11), p. 315—above Portillo, Prov. Santiago.

Range in Chile.—From Tarapacá south to the Straits of Magellan.

Material collected.—Coquimbo: Baños del Toro (alt. 10,600 feet), ♂ ad., Nov. 17.—Aconcagua: Papudo, ♂ ad., Dec. 8.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ juv., Feb. 21.

Additional specimens.—Tarapacá: Huasco, ♀ ad. C. Rahmer (Princeton Museum of Zoology, ex British Museum).—Antofagasta: Calama, ♂ juv., March 1, 1847. Professor Behn (Berlin Museum).—Chile (unspecified): five adults. E. C. Reed (British and Munich Museums).

It is now an established fact that the Black-rumped Swallow of Chile belongs to the larger species with pale mouse gray under wing, and white shorter under tail coverts, although various authors misidentified it with *P. cyanoleuca*, which is not found anywhere in Chile.¹

It is reported to breed throughout the greater part of Chile from near sea level to about 10,000 feet in the Cordilleras. Landbeck states that it prefers the vicinity of rivers and lakes. Reed found it common around the hacienda de Cauquenes, Colchagua; Pässler at Coronel; Barros at Nilahue, Curicó, as well as in the Andes of Aconcagua up to 10,000 feet. Lane mentions it as common at Huasco and Sacaya, Cordillera of Tarapacá, where it breeds in November or December, making its nest in a hole or the crevice of a cliff.

This swallow is a migratory species, at least in southern and central Chile, where it stays from the end of August to the middle of March, and then migrates northwards.

A single adult female (in rather poor condition) from Tarapacá appears to be referable to typical *patagonica*. Its wing measurement

¹There can be no doubt that the specimen of *Atticora cyanoleuca montana* recorded by Allen (Bull. Amer. Mus. Nat. Hist., 2, p. 80, 1889) is incorrectly labeled "Valparaíso, June, 1885," and I strongly suspect its label has been interchanged with that of *Tachycineta meyeni* (l. c., p. 79) said to be from "Falls of the Rio Madeira," Bolivia. See also Chapman, Amer. Mus. Novit., 30, p. 2, footnote.

of 106 mm. falls well within the range of this form, as represented by Chilean and Argentine (Tucumán) examples, whereas *P. p. peruviana*, from Arequipa and Lima, measures from 95 to 101 mm. The under wing coverts are perhaps slightly paler, and the shorter under tail coverts have less white than in the majority from more southern localities, but as certain typical *patagonica* are quite similar, I do not regard these divergencies as necessarily indicating geographic intergradation to *P. p. peruviana*, although a larger series from Tarapacá might show this to be the case.

17. *Haplochelidon*¹ *andecola andecola* (Lafr. and d'Orb.)

Hirundo andecola Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 69, 1837—La Paz, Bolivia (type in Paris Museum examined).

Atticora cinerea (errore) Sclater (6), 1891, p. 132—Sacaya, Tarapacá; E. Reed (4), p. 199—Tarapacá; Albert (1), 100, p. 373—Tarapacá (ex Sclater).

Range in Chile.—Once recorded from Sacaya, Tarapacá.

Material.—Tarapacá: Sacaya, alt. 12,500 feet, ♀ imm., April 2, 1890. A. Lane (British Museum).—Wing 111; tail 55; bill 6.

This specimen is totally different from *Orochelidon murina* (Cassin) [= *Atticora cinerea* auct.], but agrees in all essential characters, viz. slightly emarginate tail, smoky brown throat and foreneck, dingy white under parts, and mostly white lower tail coverts, with skins of the Andean Cliff-Swallow from Bolivia, Arequipa, and Tinta (Cuzco). It is just in the process of molting from the juvenile plumage (with dark sooty brown upper parts and tawny-tinged rump) into the glossy-backed dress of the adults.

The typical race of this Cliff-Swallow ranges from southern Peru to Bolivia and extreme northern Chile.

18. *Hirundo rustica erythrogaster* Boddaert

Hirundo erythrogaster Boddaert, Tabl. Pl. Enl., p. 45, 1783—based on Dautenton, Pl. Enl., 724, fig. 1, Cayenne.

Hirundo americana Philippi, Zool. Garten, 39, p. 69, 1898—Santiago; idem (24), p. 25—Aculeo, Santiago.

Hirundo rustica Albert (1), 100, p. 375—Laguna de Aculeo, Santiago (monog.).

Range in Chile.—Winter visitor.

¹*Haplochelidon* Todd, Auk, 46, p. 245, 1929—type, by orig. desig., *Hirundo andecola* Lafresnaye and d'Orbigny.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., ♀ ad., March 23, 1924.

Both specimens are molting the outermost primary, while the other wing-quills have already been renewed.

The North American Barn-Swallow is a winter visitor to Chile. It has previously been recorded by Philippi from the vicinity of Santiago (Dec. 3, 1897) and Arica (date not stated). Albert (Rev. Chil. Hist. Nat., 3, p. 28, 1899) is certainly mistaken in assuming that it has established itself as a breeding bird near the Laguna de Aculeo.

19. *Iridoprocne leucopyga* (Meyen)¹

Hirundo leucopyga Meyen, Nov. Act. Ac. Leop. Carol., 16, Suppl., p. 73, pl. 10, fig. 2, 1834—Santiago, Chile; Philippi (12), p. 249—Chile generally; Landbeck (9), p. 235; Gigoux, p. 87—Caldera, Atacama.

Hirundo leucorrhoa (not of Vieillot) Lafresnaye and d'Orbigny, Syn. Av., 1, p. 69—Valparaiso.

Hirundo leucopygia Darwin, p. 40—Valparaiso; Fraser (1), p. 110—Chile; Housse (2), p. 143—San Bernardo.

Cypselus (!) *leucopygius* Des Murs (2), p. 266; Germain, p. 309—Santiago (nesting habits).

Hirundo meyeri Pelzeln (2), p. 41; Sclater (2), 1867, pp. 321, 337—Valparaiso; E. Reed (2), p. 543—Cauquenes, Colchagua.

Tachycineta meyeri Salvin (2), p. 420—Coquimbo; E. Reed (4), p. 199—Chile; Albert (1), 100, p. 866—Chile (monog.); Lane, p. 15—Corral, Valdivia, and Maquegua, Arauco; Páessler (3), p. 470—Coronel (habits, nests and eggs); Bullock (3), p. 124—Cerro de Nahuelbuta, Malleco; idem (4), p. 182—Angol, Malleco; Jaffuel and Pirion, p. 105—Marga-Marga, Valparaiso (=juv.).

Hirundo cyanoleuca (not of Vieillot) Frauenfeld, p. 637—near Santiago; Lataste (1), p. CXV—Ninhue, Maule; idem (4), p. XXXIII—Caillihue, Curicó; Waugh and Lataste (1), p. LXXXIV—Peñaflor, Santiago; idem (2), p. CLXX—San Alfonso, Quillota.

Hirundo leucopyga (*meyeri*) Philippi (24), p. 23, pl. 20, fig. 2—Chile generally.

Iridoprocne meyeri Barros (4), p. 147—Ñilahue, Curicó; idem (5), p. 186—Cordillera of Aconcagua; Wetmore (3), p. 341—Concon.

Hirundo leucoptera (not of Gmelin) Housse (1), p. 48—Isla La Mocha.

Tachycineta leucopyga Jaffuel and Pirion, p. 105—Marga-Marga, Valparaiso.

¹This species is currently called *I. meyeri* (Cabanis). There seems, however, no valid reason for rejecting Meyen's term, which was changed to *Petrochelidon meyeri* by Cabanis (Mus. Hein., 1, p. 48, 1850) merely on the ground that Lichtenstein, on labels in the Berlin Museum, had originally used the name *H. leucopyga* for some other species. Meyen's description and figure are clearly based on the example collected by himself at Santiago, while the Montevideo bird of the Berlin Museum, which is stated to differ by the more greenish gloss of the upper parts and turned out to belong to *I. leucorrhoa*, is only incidentally mentioned.

Range in Chile.—From Atacama (Copiapó Valley) to the Straits of Magellan.

Material collected.—Atacama: Ramadilla (Copiapó Valley), ♂ ad., Aug. 22.—Valdivia: Máfil, ♂ imm., Feb. 22.—Chiloé Island: Rio Inio, ♂ ad., Jan. 11; Quellon, ♂ ad., ♀ ad., Dec. 24, 25.

Additional specimens.—Coquimbo: Coquimbo, ♂ juv., Nov., 1881. H. Markham (British Museum).—Valparaiso: San Alfonso (Quillota),¹ ♂ ad., June 23, 1894. F. Lataste (British Museum).—Santiago: Peñafior,¹ adult (not sexed), Jan. 17, 1894. F. Lataste (British Museum); Santiago, ♂ ad., June, 1874. E. C. Reed (British Museum).—O'Higgins: Rancagua, ♀ ad., Dec., 1903. C. S. Reed (Munich Museum).—Curicó: Caillihue (Vichuquen),¹ ♂ imm., Dec. 23, 1894. F. Lataste (British Museum).—Concepción: Concepción, ♂ juv., Jan. 21, 1903. C. S. Reed (Field Museum).—Arauco: Maquegua, ♀ ad., Aug. 10, 1890. A. Lane (British Museum).—Valdivia: Corral, two ♂♂, one ♀ ad., Oct. 31, Nov. 1, 1890. A. Lane (British Museum); Valdivia, ♂ ad., Dec. 9, 1924. F. Ohde (Munich Museum).

The White-rumped Swallow is a common resident throughout the central and southern parts of Chile, the most northerly record being from the Copiapó Valley.² It extends southward to the Straits of Magellan and, besides, it is also found over an extensive area in Argentina, where, however, the limits of its breeding range have yet to be worked out. It can hardly be more than subspecifically distinct from *I. leucorrhoa*, but it would be unwise to employ a trinomial designation until we know more about the distribution of these two closely allied swallows in Argentina and neighboring countries.

[*Diglossa carbonaria brunneiventris* Lafresnaye.—Des Murs (Iconog. Ornith., livr. 8, text to pl. 43, 1847) claims that this species was discovered by Claudio Gay in Chile. The type, which we have carefully compared in the Paris Museum, is indeed labeled: "Chili, par M. Gay, 1843," and agrees with specimens from southern Peru and Sorata, western Bolivia. However, as pointed out by Sclater (P. Z. S. Lond., 1867, p. 322), Gay's authority is by no means trustworthy, and until its occurrence in some part of Chile has been confirmed by reliable evidence, *D. c. brunneiventris* is better excluded from the Chilean fauna.]

¹Named "*Hirundo cyanoleuca*" by Lataste.

²Allen's record (p. 79) from "Falls of the Rio Madeira," Bolivia, in his report on the Rusby collection doubtless refers to a wrongly labeled Chilean example.

20. *Conirostrum cinereum littorale* Berlepsch and Stolzmann

Conirostrum cinereum littorale Berlepsch and Stolzmann, P. Z. S. Lond., 1896, p. 386, footnote—Lima (type) and Arequipa, Peru (spec. in Berlepsch Collection examined).

Conirostrum cinereum Lafresnaye and d'Orbigny, Syn. Av., 2, in Mag. Zool., 8, cl. 2, p. 25, 1838—part, descr. of "female," Tacna;¹ d'Orbigny, p. 374—part, Tacna; Cassin, Proc. Ac. Nat. Sci. Phila., 1864, p. 272—part, Tacna; Sclater (6), 1891, p. 133—Pica, Tarapacá; Lane, p. 15—Pica; E. Reed (4), p. 199—Tarapacá; Albert (1), 101, p. 939—northern Chile (monog.).

Range in Chile.—Extreme north, in provinces of Tarapacá and Tacna.

Material collected.—Tarapacá: Pica (alt. 4,000 feet), seven ♂♂ ad., two ♀♀ ad., May 17, 20, 23.—Tacna: Chacalluta, ♂ ad., July 16.

Additional specimens.—Tacna: Tacna, ♂ ad., Oct. 13, 1902. Otto Garlepp (Berlepsch Collection).

Wing (male) 56–60, (female) 55; tail 46–50, (female) 43–45; bill 9–10.

These specimens—all in fresh plumage—agree in coloration and size with a series from the coast region of Peru, including four from the vicinity of Lima.

There is considerable individual variation in the amount of olivaceous suffusion on the back and in the depth of the buff color on the under parts. The male from Chacalluta is particularly richly colored underneath, the tone approaching warm buff whereas the dullest examples—two males from Pica—in their grayish buff ventral surfaces, are exactly matched by one from Matucana, above Lima.

C. c. littorale replaces typical *C. c. cinereum* on the Pacific coast of northern Chile and Peru as far north as Dept. Libertad, ranging east into the upper Marañon Valley.²

[*Phœnesticus chrysopheplus chrysogaster* (Lesson),³ erroneously credited to "Chile" in the original description, has never been found in that country, but is widely distributed in Ecuador and Peru.]

¹Lafresnaye and d'Orbigny, in their original description, confused the two recognizable southern races, regarding the differences as sexual. The characters of the male correspond to the dark form of Bolivia and southeastern Peru, and the type specimen at Paris, which no doubt served for the plate in d'Orbigny's work, agrees in coloration with a series from Iquico, Illimani, Bolivia. An unsexed bird in the Lafresnaye Collection (No. 5,795, Mus. Comp. Zool., No. 76,710) is much paler above, with the crown by no means blackish, while the under parts are deep buff, instead of mainly grayish. It is precisely matched by some of our Chilean birds, and doubtless is one of the specimens taken at Tacna.

²See Hellmayr, Arch. Naturg., 85, A, Heft 10, p. 13, 1920.

³*Pitylus chrysogaster* Lesson, Cent. Zool., p. 204, pl. 67, 1832.

21. *Xenospingus concolor* (Lafresnaye and d'Orbigny)

Sylvia concolor Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 20, 1837—Arica, Prov. Tacna (type in Paris Museum examined; = adult male); d'Orbigny, p. 216, pl. 18, fig. 1—Arica.

Xenospingus concolor Sclater (6), 1891, p. 134—Pica, Tarapacá; Lane, p. 16—Pica; E. Reed (4), p. 199—Tarapacá; Albert (1), 108, p. 236—Tarapacá and Tacna (monog.).

Range in Chile.—Extreme north, from Antofagasta to Tacna.

Material collected.—Tacna: Chacalluta, ♂ ad., ♀ ad. (?), ♂ juv., three ♀ juv., June 12, 14, July 16, 21.—Tarapacá: Pica (alt. 4,000 feet), ♂ ad., ♀ juv., May 20, 23.—Antofagasta: Rio Loa (alt. 7,500 feet), ♂, April 19.

Additional specimens.—Tacna: Arica, ♂ ad. D'Orbigny (type of species; Paris Museum).

The adult males are gray, paler below and nearly whitish along the middle line, and the bill is wholly yellow. The young birds (of both sexes) agree with Cabanis's description of that stage¹ in having the pileum and hind neck grayish olive; the back Saccardo's umber; the wings and tail feathers hair brown, edged with paler brown; the under parts olive-buff or deep olive-buff, heavily streaked with dark brown on breast and sides; the bill dusky brown. A female taken at Chacalluta on July 16, which has all the appearance of being adult, is very similar on the upper parts, but underneath it is much paler (about ivory yellow), with the dusky streaking narrower as well as less pronounced. According to Berlepsch and Stolzmann,² however, the adult female resembles the male, being but slightly duller gray in color. The single male from Rio Loa is much like the Chacalluta bird just mentioned, but has the bill yellow and a distinct sooty loreal spot like the adult males, while the upper part of the head is partly gray. It is probably a bird of the year.

All our specimens are in good plumage.

This monotypic genus is peculiar to the Pacific slope of northern Chile and southern Peru, its altitudinal distribution ranging from near sea level to about 7,500 feet. It was discovered by d'Orbigny at Arica, and Ambrose Lane afterwards obtained five specimens at Pica, Tarapacá, in May, 1890. Outside of Chile, it has been reported from the upper Tambo Valley, Arequipa,³ and from Ica,² in the province of the same name.

¹Journ. Ornith., 15, p. 349, 1867.

²P. Z. S. Lond., 1892, p. 376.

³P. Z. S. Lond., 1868, p. 173.

22. *Sporophila telasco* (Lesson)

Pyrrhula telasco Lesson, Voyage Coquille, Zool., 1, (2), p. 663, pl. 15, fig. 3, 1828-30—"les environs de Lima, au Pérou" (descr. of male).

Pyrrhula alaudina Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 88, 1837—Tacna, Chile (descr. of female).

Range in Chile.—Extreme northern section, in province of Tacna.

Material examined.—Tacna: Tacna, ♂ imm., Oct. 12, 1902; Asapa, near Arica, ♂ imm., Nov. 2, 1902. Otto Garlepp (Berlepsch Collection).

Although the type cannot be found in the collection of the Paris Museum, the description leaves no doubt that *P. alaudina* had been based on a female without the usual rufous throat of the present species. Two immature males from Tacna, with brownish upper parts and some scattered whitish feathers in the otherwise rufous throat, agree with others in corresponding plumage from the Peruvian littoral, but have slightly longer wings (55-57, against 51-54 mm.).

S. telasco, which appears to be more nearly related to *S. minuta* than to any other member of the genus, ranges all over the Pacific littoral of Ecuador and Peru, reaching the southern limit of its distribution in the extreme north of Chile.

23. *Catamenia analis analis* (Lafresnaye and d'Orbigny)

Linaria analis Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 83, 1837—Sicasica and Cochabamba, Bolivia (type in Paris Museum examined).

Catamenia analis Philippi, Ornith., 4, p. 159—Sibaya, Tarapacá.

Range in Chile.—Only once recorded from Sibaya, Cordillera of Tarapacá.

We have not seen any Chilean material, but geographical considerations render it almost certain that the Tarapacá birds recorded by Philippi will prove to be typical *C. a. analis*, which is widely distributed throughout the Andes of Bolivia and western Argentina (Jujuy to Mendoza).

24. *Volatinia jacarina peruviensis* (Peale)

Geospiza peruviensis Peale,² U. S. Expl. Exp., 8, p. 115, 1848—between Callao and Lima (descr. of male and female).

¹ The plate, issued with livr. 8, was published on November 29, 1828, while the corresponding letter press, part of livr. 15, did not appear until April 3, 1830.

² *Geospiza peruviensis* Peale long antedates *Volatinia jacarina pacifica* Chapman (Amer. Mus. Novit., 143, p. 11, 1924—Trujillo, Dept. Libertad, Peru).

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Chacalluta, ♀ ad., June 12.

This is the first Chilean record of the Pacific Grassquit, which ranges all over the Pacific coast of Peru north to Ecuador, where it passes gradually into the northern *V. jacarina atronitens* Todd.

25. *Phrygilus*¹ *patagonicus* Lowe

Fringilla formosa (not of Latham, 1790) Gould in Darwin, Zool. Beagle, 3, p. 93, Nov., 1839—Tierra del Fuego (the type examined in the British Museum is from Good Success Bay).

Phrygilus gayi patagonicus Lowe, Ibis, (11th ser.), 5, p. 515, 1923—new name for *Fringilla formosa* Gould, preoccupied.

Chlorospiza gayi (not *Fringilla gayi* Gervais) Des Murs (2), p. 355—part, descr. and hab. "sur de la República"; Philippi (12), p. 264—Valdivia; Landbeck (9), p. 255—restricted to the south, very rarely met with in the north; Lataste (1), p. CXV—Ninhue, Maule.

Phrygilus gayi Hartlaub (3), p. 214—Valdivia; E. Reed (4), p. 199—southern Chile; Lane, p. 16—Arauco to Chiloé; Albert (1), 108, p. 209—part, southern Chile; Bullock (3), p. 125—Nahuelbuta, Malleco; idem (4), p. 190—Angol, Malleco.

Phrygilus gayi aldunatei (not of Des Murs) Housse (3), p. 226—Isla La Mocha.

Phrygilus gayi gayi Barros (4), p. 149—Nihahue, Curicó.

Range in Chile.—From Santiago to the Straits of Magellan.

Material collected.—Malleco: Rio Colorado (alt. 3,000 feet), three ♂♂ ad., ♀ juv., Feb. 2, 4.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ ad., Feb. 14.—Chiloé: Quellon, nine ♂♂ ad., three ♀♀ ad., two ♂♂ juv., Dec. 25, 26, 28, 29, 31, Jan. 1, 2, 3, 4, 27; Rio Inio, ♂ ad., ♀ ad., ♂ juv., Jan. 10, 15, 16.—Guaitecas Islands: Melinka, Ascension Island, ♀ ad., ♂ juv., Jan. 31.

Additional specimens.—Santiago: Santiago, ♀ ad., Aug., 1862. R. A. Philippi (United States National Museum).—Arauco: Maquegua, ♀ ad., Aug. 12, 1890. A. A. Lane.—Cautin: Maquehue, Temuco, ♀ ad., Aug. 13, 1904. D. S. Bullock.—Valdivia: Corral, ♂ ad., Oct. 18, 1890. A. A. Lane (British Museum); Valdivia, two ♂♂ ad., 1897. A. von Lossberg (Berlepsch Collection).—Llanquihue: Lago Llanquihue, ♂ ad., Dec. 5, 1890. A. A. Lane (British Museum); Desagüe, near Puerto Montt, three ♂♂ ad., ♀ ad., Aug. 20, 28, Sept. 8, 1895. G. Hopke (Berlepsch Collection).

The full-plumaged males exhibit, regardless of locality, a great amount of individual variation in the color of the upper parts. The

¹As to the limits of the genus, see Wetmore, Bull. U. S. Nat. Mus., 133, p. 405, 1926.

most richly-colored specimens have the anterior and middle back plain orange chestnut or tawny (only the scapulars olive green), strongly contrasted with the yellow ochre rump. In others, the feathers of this rufous area are apically edged with greenish to a varying degree, and the rump is somewhat duller, nearer aniline yellow; in others again the back is mainly citrine, with slight touches of dull tawny here and there, and the rump still duller, approaching sulphine yellow. The intensity of the yellow underneath is likewise variable, ranging from aniline yellow in the darkest to amber yellow, laterally deepening into wax yellow, in the palest examples. The throat, foreneck, and cheeks are dark gull gray, the pileum decidedly darker, slate gray.

The adult female may be recognized by slightly smaller size; markedly paler gray head, with distinct blackish streaks on pileum and malar region; duller yellow under parts; and uniform citrine or dark citrine back, without trace of tawny suffusion, the rump being but little more yellowish than the mantle.

The juvenile plumage—represented in the series by both sexes—is bright yellow (amber or wax yellow) underneath; the throat paler and sometimes variegated with grayish, laterally bordered by a distinct dusky malar stripe; the chest and sides tinged with aniline yellow; the foreneck streaked with blackish; the cheeks and auriculars pale gray; the upper parts more brownish than in the adult female; the forepart of the pileum only dull slate gray. It is well figured on the plate facing p. 52 in Crawshaw's "Birds of Tierra del Fuego" s. n. *P. gayi*, and differs widely from the young of the larger species, which I consider to be entitled to Gervais' name.

Careful comparison of the Chilean material with thirty-five specimens, including the type, from the Straits of Magellan and Tierra del Fuego, demonstrates their absolute identity, the variation in the color of the upper parts in the adult male being exactly the same in the two series.

It seems to be premature to treat *P. patagonicus* as a subspecies of *P. gayi*. Apart from the fundamental differences between the two birds in the coloration of the adult female and juvenile plumage, it is quite possible that their breeding ranges overlap on the Argentine slope of the southern section of the Andes, although in Chile they appear to represent each other geographically. A series of breeding birds, including two in juvenile plumage, from Bariloche, Lake Nahuel Huapi, typically represent *P. patagonicus*, being indistinguishable from South Chilean and Magellanic specimens; while

six skins in worn breeding plumage from the Andes west of Mendoza (Puente del Inca, December) and a dozen from Huanuluan, Rio Negro, are as clearly referable to the larger, white-bellied species (*P. gayi*). The late J. Koslowsky secured series of both in the Valle del Lago Blanco, western Chubut, between September and November, though in this case no unquestionable breeding birds were obtained.

In Chile, *P. patagonicus* as a breeding bird is evidently confined to the southern provinces, although the exact limits of its nesting range can hardly be defined at present. According to Landbeck, it is very common around Valdivia from April to October, though it was never found breeding, and appears but rarely in small numbers in the northern parts of Chile, probably as a winter visitor. The United States National Museum has an adult bird from Santiago, August, 1862, received from R. A. Philippi, and Lataste shot a specimen in the latter half of September, 1893, at Ninhue, Dept. Itata, Maule. Barros states that the "Chanchito," while fairly rare, may be seen in small flocks, chiefly in winter and spring, in the Nilahue Valley, Curicó, where, however, a few pairs stay to breed. Bullock lists it as an irregular winter visitor for Angol, Malleco, while Sanborn obtained apparently breeding adults and a full-grown young bird at Rio Colorado, in the hills of the same province. It undoubtedly breeds on Chiloé Island, whence we received a considerable series in various plumages, and thence down to the Straits of Magellan.

According to Lane, the favorite haunts of these birds are the sides of ravines or abrupt hollows, covered with thick bush of seed-bearing nature, and small cliffs covered with creepers. They do not occur on open stretches, but are often numerous in partially cleared localities, where coppice has taken the place of the large timber previously cut down or burned. In call-note, song, and habits they are said to resemble their northern ally (*P. g. gayi*).

MEASUREMENTS

| Adult males | Wing | Tail |
|-----------------------------------|--------|--------|
| Seventeen from Chile proper | 75-82 | 56-63 |
| Fourteen from Straits of Magellan | 77-85 | 57-67 |
| Two from Tierra del Fuego | 80, 84 | 63, 67 |
| Four from Nahuel Huapi | 76-82 | 62 |
| Adult females | | |
| Six from Chile proper | 72-75 | 54-61 |
| Two from Straits of Magellan | 74, 76 | 53, 59 |
| Three from Nahuel Huapi | 72-76 | 55-57 |

26. *Phrygilus gayi* (Gervais)

Fringilla Gayi [Eydoux and] Gervais,¹ Mag. Zool., 4, cl. 2, pl. 23, 1834—Chile; Eydoux and Gervais, Voyage Favorite, Zool., 5, (2), p. 46, 1839—Valparaiso; Bridges, p. 94—Chile, between 34° and 35°, near the summit of the Andes; Fraser (1), 1843, p. 113—Chile, in winter on the coast.

Chlorospiza aldunatei Des Murs in Gay, Hist. fis. pol. Chile, Zool., 1, p. 356, 1847—part, Chile; Philippi (12), p. 264—central and northern provinces; Landbeck (9), p. 256—vicinity of Santiago; Gigoux, p. 84—Caldera.

Phrygilus gayi Bibra, p. 130—Valparaiso; Cassin, p. 180; Pelzeln (2), p. 93; Sclater (2), 1867, pp. 322, 337—Chile; Salvin (2), p. 421—Coquimbo; Ridgway, Proc. U. S. Nat. Mus., 10, p. 431, 1887—Santiago (monog.); Albert (1), 108, p. 209—part, northern Chile.

Phrygilus aldonatii [sic] E. Reed (2), p. 543—Baños de Cauquenes, Colchagua.

Phrygilus gayi gayi Lowe, Ibis, 1923, p. 514—Chile and Patagonia (crit.).

Phrygilus gayi aldunatei Barros (5), p. 189—Cordillera of Aconcagua; Housse (2), p. 147—San Bernardo, Santiago.

Phrygilus aldunatei E. Reed (4), p. 199—northern Chile; Jaffuel and Pirion, p. 109—Marga-Marga Valley, Valparaiso.

Chlorospiza gayi Gigoux, p. 84—Caldera, Atacama.

Range in Chile.—From Atacama to Colchagua.

Material collected.—Atacama: Caldera, two ♂♂ ad., two ♂♂ imm., June 8, 1924. E. Gigoux; ♀ ad., Aug. 29; Domeyko, two ♂♂ imm., Aug. 9, 16.—Coquimbo: Paiguano, ♂ imm., ♀ ad., June 14, 15; Balala, Rio Turbio (alt. 4,850 feet), ♂ ad., Nov. 7;

¹There has been considerable controversy about the identification of *F. gayi* of Gervais. Sharpe (Cat. B. Brit. Mus., 12, p. 781, 1888) referred it to the smaller southern species, in which the sexes differ but little *inter se*, and was followed in this course by Peters (Bull. Mus. Comp. Zool., 65, p. 334, 1923), while other authors like Ridgway (Proc. U. S. Nat. Mus., 10, p. 431, 1887) and Lowe (Ibis, 1923, p. 514) unhesitatingly applied the name to the larger yellow-backed, white-vented species with striking sexual dimorphism, which breeds in the Temperate Zone of central Chile. Sclater and Salvin (Ibis, 1869, p. 285) pretend having examined the "type" of *F. gayi*, but as pointed out by Oustalet (Miss. Sci. Cap Horn, 6, Zool., p. B 85, 1891) this specimen is not, and apparently never was, in the collection of the Paris Museum, and my own researches in the French National Museum fully corroborate his contention. The above-mentioned authors appear to have mistaken for the type one of the specimens presented by C. Gay posterior to the publication of Gervais' account. Both description and figure are rather ambiguous. The general coloration of the plate, which represents the dorsal and ventral surfaces of the bird about the same shade of yellow, and the absence of any allusion to a brighter rump-patch point to the larger (northern) species, whereas the restriction of the white to the under tail coverts speaks rather for the smaller form (*P. patagonicus*). The type was shot by Eydoux, naturalist of the "Favorite," in Chile, no locality being specified in the original description. Several years later, however, Eydoux and Gervais, in their report on the zoological collections of the "Favorite," definitely state that "les individus proviennent de Valparaiso," where the larger species is much more likely to be met with, and call the "ventre blanchâtre," thus modifying the original account. In the face of these facts I am inclined to refer *F. gayi*, in agreement with Ridgway and Lowe, to the larger central Chilean form, afterwards named *C. aldunatei* by Des Murs.

Baños del Toro (alt. 10,600 feet), four ♂♂ ad., Nov. 10, 19.—Aconcagua: Los Andes (alt. 1,800 feet), ♂ ad., Aug. 19; Rio Blanco, ♀ ad., Oct. 18, 1924. R. Barros.

Additional specimens.—Coquimbo: Coquimbo, ♂ ad., Nov., 1881. A. H. Markham (British Museum).—Santiago: Santiago, ♂ ad., ♀ ad., June and August, 1864. R. Philippi; ♂ imm., ♀ ad., July, 1872. E. C. Reed (United States National Museum and Paris Museum).—Chile (unspecified): twelve ♂♂ ad., three (sex undetermined). H. Berkeley James Coll. (British Museum).

In opposition to what obtains in *P. patagonicus*, adult males of the present species exhibit very little variation, those in worn plumage being brighter and more yellowish above than immediately after the annual molt. Regardless of locality, the olive-green jugular band, separating the bluish gray head from the yellow breast, is either well developed or barely suggested. Birds from Atacama average somewhat smaller, but one from Coquimbo, collected by Sir Markham, is hardly larger. The female of this species is quite different from the male and cannot be confused with that of *P. patagonicus*, from which it is readily distinguished by its much paler, less bluish, though similarly streaked pileum; an indistinct whitish postocular streak; paler (less bluish) gray sides of the head; whitish throat, medially often variegated with dusky; dull orange breast, with slight grayish apical edges to the feathers; and brownish buff abdomen, more whitish along the middle line. Besides, the back is not so greenish, orange citrine rather than dark citrine, the ground color being obscured by grayish margins, and the larger upper wing coverts are hair brown, tipped with buffy or dingy whitish, instead of being uniform bluish gray. There are also a number of specimens marked as "male" in this plumage, which I take to be birds of the year. Two from Caldera, including one "male," and a female from central Chile are almost uniform grayish above, with just a faint greenish tinge in the middle of the back, and the orange pectoral area is but slightly suggested.

P. g. gayi breeds in the Cordilleras of central Chile at altitudes from 4,800 to 11,000 feet. The specimens taken by Sanborn in November at Balala, Rio Turbio, and Baños del Toro, Coquimbo, are in worn breeding plumage. According to Landbeck, it breeds in the Cordillera of Santiago, and Barros reports it as nesting in the Andes of Aconcagua. After the nesting season, it starts on its downward migration and may then be met with in the foothills and even along the coast at Valparaiso, Coquimbo, and Caldera.

Birds from the Argentine slope of the Andes (Lara, Tucumán; Fuerte de Andalgala, Catamarca; Puente del Inca, Mendoza; Huanuluan, Rio Negro) are similar in coloration, but average larger and have, as a rule, a somewhat heavier, longer bill.

If deemed worthy of separation, they have to be called *P. gayi caniceps* Burmeister.¹ The types which, thanks to the courtesy of Professor Brühl, I have been enabled to examine, are birds in female plumage and agree with a series from other Argentine localities. *P. gayi koslowskii* Lowe,² the original series of which I have carefully compared in the British Museum, proves to have been based upon freshly molted individuals of the same form.

MEASUREMENTS OF ADULT MALES

| | Wing | Tail | Bill |
|--|------------------------|-----------------------|------------------------|
| Two from Caldera, Atacama | 82,84 | 60,62 | 13,13½ |
| One from Balala, Coquimbo | 89 | 64 | 13 |
| Four from Baños del Toro, Coquimbo | 88,90, 91,92 | 64,67, 69,69 | 12½,13, 13,13½ |
| One from Coquimbo | 84 | 61 | 12½ |
| One from Los Andes, Aconcagua | 85 | 61 | 14 |
| One from Santiago | 89 | 68½ | 12 |
| Six from "Central Chile" | 85,87,87,88,88,88 | — | — |
| One from Lara, Tucumán | 93 | 70 | 15 |
| One from Colalao del Valle, Tucumán | 92 | 68 | 14 |
| One from Fuerte de Andalgala, Catamarca | 90 | 65 | 14 |
| Two from near Mendoza | 90,95 | 64,69 | 13,13 |
| Three from Inca, Mendoza | 93,94,94½ | 70,70,71 | 13,13½,14 |
| Six from Huanuluan, Rio Negro | 91,95,96, 96,97,98 | 64,70,70, 70,71,72 | 12,13,13, 13,13½,14 |
| Two from Maquinchao, Rio Negro | 93,94 | 68,68 | 14,15 |
| Six from Valle del Lago Blanco, Chubut | 91½,93,94, 94,94,96 | 69(five), 70 | 13½,14,14, 14,14,15 |

27. *Phrygilus gayi atriceps* (Lafresnaye and d'Orbigny)

Emberiza atriceps Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 76, 1837—"in Peruvia, in summis Andibus, prope Tacora," = Tacora, Prov. Tacna (type in Paris Museum examined); Philippi, Reise Atacama, pp. 81, 162—"Pugios" [=Púquios, alt. 10,800 feet, n. e. of Copiapó], Atacama.

Phrygilus atriceps Selater (4), 1886, p. 397—Sacaya and "Llallcalhuay," Tarapacá; idem (6), 1891, p. 133—Sacaya, Tarapacá; Lane, p. 17—Sacaya and Huasco, Cordillera of Tarapacá; E. Reed (4), p. 199—Chile; Albert (1), 108, p. 211—Tarapacá and Tacna (monog.).

Chlorospiza atriceps Philippi, Ornith., 4, p. 159, 1888—Antofagasta.

¹Journ. Orn., 8, p. 256, 1860—Mendoza (types in Halle Museum examined).

²Ibis, (11th ser.), 5, p. 515, 1923—Valle del Lago Blanco, western Chubut.

Range in Chile.—Puna Zone of northern Chile, in provinces of Tacna, Tarapacá, Antofagasta, and Atacama (Púquios).

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., July 8.—Antofagasta: Ojo de San Pedro (alt. 12,400 feet), ♂ ad., May 2; twenty miles east of San Pedro (alt. 12,600 feet), ♂ ad., ♂ imm., ♂ juv., ♀ ad., April 28, 30, Oct. 10; Rio Inacaliri (alt. 12,800 feet), twenty-eight miles east of San Pedro, ♂ [? = ♀ ad.], April 25.

Additional specimens.—Tacna: Tacora [labeled "Cordillère du Pérou"], ♂ ad. (type of species). D'Orbigny (Paris Museum).—Tarapacá: Sacaya, ♂ ad., Feb. 8, 1886. C. Rahmer; two ♂ ♂ ad., March 29, April 2, 1890. A. A. Lane; Huasco, ♂ ad., Jan. 20, 1890. A. A. Lane; "Iquique," ♂ ad. H. Rowland (British Museum).

Adult males are well characterized by their uniform deep black head. Females have the pileum from deep to dark mouse gray streaked with black, while the throat and sides of the head are blackish mouse gray, the feathers of the former being sometimes edged with pale grayish. Birds without any black on the head or bright yellow on the rump, with buffy edges to inner secondaries and upper wing coverts and buffy or brownish, more or less blackish streaked throat obviously represent an immature stage, possibly even the juvenile plumage.

The Black-headed Phrygilus, while sharply separated from *P. g. gayi*, of central Chile, is connected with the plumbeous-headed group, through *P. g. punensis*, of northwestern Bolivia.¹ This form, of which I have seen a good series from La Paz, Iquico (Illimani), Tilotilo (type of *P. saturatus* Sharpe), and Lake Titicaca, has the head just a trifle darker than *P. g. chloronotus*, of central and northern Peru, but approaches *P. g. atriceps* by its bright orange brown or tawny upper back.

P. gayi atriceps, originally based upon an adult male from Tacora, Tacna, ranges all over the Cordilleras of northern Chile south to Púquios, inland of Copiapó, Atacama, where it was met with by Philippi many years ago. Specimens from extreme southwestern Peru (Arequipa and Chihuata) in the British Museum and an adult male from Sajama, Oruro, Bolivia, in the Berlepsch Collection are precisely similar to the Chilean series. Birds from the central parts of Bolivia (Vacas, Prov. Mizque; El Cabrada, Chuquisaca; Potosi)

¹Allen's record (Bull. Amer. Mus. N. H., 2, p. 83, 1889) of this form from "Valparaiso" is, of course, based on a wrongly labeled specimen in the Rusby collection.

and northwestern Argentina (Antofagasta, Los Andes; Maimara, Angosta Perchela,¹ and Tilcara,¹ Jujuy), on the other hand, have generally longer bills, though the various individuals are not distinguishable.

In Argentina, the black-headed form is clearly restricted to the extreme northwestern section. L. Dinelli and E. Budin secured specimens at various places in Jujuy; Lönnberg² records it from Moreno in the Puna region of the same province; and J. Mogensen sent a female from Antofagasta, Los Andes, to Field Museum. It evidently does not go much farther south, for birds in breeding plumage taken by G. A. Baer at Lara, Tucumán, and others collected by E. W. White at Fuerte de Andalgala, Catamarca, belong to the gray-headed, olive-backed *P. g. gayi* (see p. 56).

Like its northern allies, *P. g. atriceps* is only found in the Puna Zone, from 8,000 feet upwards.

MEASUREMENTS OF ADULT MALES

| | Wing | Tail | Bill |
|--------------------------------------|-------------------|-------------------|---------------------|
| One from Tacora, Tacna (the type) | 98 | 70 | 15 |
| One from Putre, Tacna | 92 | 68 | 14 |
| Two from near San Pedro, Antofagasta | 94, 99 | 67, 74 | 13½, 13¾ |
| Four from Cordillera of Tarapacá | 95, 97, 97, 98 | 67, 69, 70, 73 | 13, 13½, 13½, 15 |
| One from Arequipa, Peru | 90 | 67 | 13 |
| One from Sajama, Oruro, Bolivia | 98 | 73 | 13½ |
| One from Vacas, Mizque, Bolivia | 96½ | 72½ | 15 |
| Two from El Cabrada, Chuquisaca | 96, 98 | 71, 77 | 15½, 16 |
| One from Maimara, Jujuy | 90 | 67 | 16 |
| Two from Angosta Perchela, Jujuy | 94, 94 | 67, 70 | 15, 16 |
| One from Tilcara, Jujuy | 95 | 72 | 16 |

28. *Phrygilus unicolor unicolor* (Lafresnaye and d'Orbigny)

Emberiza unicolor Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 79, 1837—"La Cordillère du Tacora (Pérou), pampa d'Oruro, Bolivie"; we accept Tacora, Prov. Tacna, as type locality (type lost, formerly in Paris Museum).

Chlorospiza plumbea Philippi and Landbeck, Arch. Naturg., 30, (1), p. 47, 1864—Cerro de San Cristobal, Las Arañas, Valle Larga, "Yceba" [= Yerba] Loca, etc., Prov. Santiago and Cordillera de la Hacienda la Puerta, Prov. Colchagua; Landbeck, Anal. Univ. Chile, 24, p. 341, 1864—same localities; Philippi (12), p. 265—Santiago, Colchagua; Landbeck (9), p. 257—Prov. Santiago and Colchagua; Philippi (24), p. 59, pl. 25, figs. 1, 2.

Phrygilus unicolor Sclater (2), 1867, pp. 322, 337—Cordillera of Santiago (crit.); E. Reed (2), p. 544—Cordillera of Colchagua; Sclater (4), 1886,

¹Erroneously quoted as "Tucumán, 2,470 à 2,550 metr. (Dinelli)" by Hartert and Venturi (Nov. Zool., 16, p. 181, 1909).

²Ibis, 1903, p. 451.

p. 397—Huasco, Tarapacá; Lane, p. 18—Huasco; E. Reed (4), p. 199—Chile; Albert (1), 108, p. 218—Cordilleras of Chile (monog.); Barros (5), p. 190—Cordillera of Aconcagua (alt. 1,570 to 3,800 meters); Housse (2), p. 147—San Bernardo, Santiago.

Phrygilus unicolor plumbea Barros (8), p. 139—Cordillera of Aconcagua.

Range in Chile.—Puna Zone of the Andes from Tacna south to the Straits of Magellan.

Material collected.—Tacna: Choquelimpie (alt. 15,000 feet), ♂ ad., ♀ ad., June 21.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), six ♂♂ ad., one ♀ ad., three ♂♂ juv., one ♀ juv., April 26, 30; October 4, 5, 10.—Coquimbo: Baños del Toro (alt. 10,600 feet), ♂ ad., two ♀♀ juv., November 15, 17, 19.

Additional specimens.—Aconcagua: Cajon del Rio Blanco (alt. 2,200 meters), two ♂♂ ad., Oct. 15, 1920; Valle de los Piuquenes, Vega Redonda (alt. 2,100 meters), ♀ juv., Dec. 23, 1920. R. Barros (American Museum of Natural History, New York); Guardia Vieja (alt. 1,550 meters), ♂ juv., Nov. 7, 1924. R. Barros (Field Museum).—Santiago: Cordillera de Santiago, ♂ ad. L. Landbeck (British Museum).

Measurements.—♂ ad.—wing 91-94; tail 66-70; bill $10\frac{1}{2}$ -11.
♀ ad.—wing 90, 91; tail 64, 66; bill $10\frac{1}{2}$, 11.
♂ juv.—wing 87-92; tail 61-66; bill $10\frac{1}{2}$ -11.
♀ juv.—wing 85-89; tail 62-65; bill 10-12.

Chapman¹ and Wetmore,² when reviewing the geographic races of the Plumbeous Phrygilus, called the pale Chilean form *P. u. plumbeus*, using the name *P. u. unicolor* for the small deeply colored birds of the Peruvian highlands.

E. unicolor, however, was originally based upon specimens from the Cordillera of Tacora, province of Tacna, and the plateau of Oruro, in the adjoining section of Bolivia. The types no longer exist in the Paris Museum nor are there any specimens in the Lafresnaye Collection at Cambridge (Mass.) that could possibly be d'Orbigny's originals. Although no material is available from Oruro, it may fairly be assumed that the birds found in that part of Bolivia are the same as those from the neighboring section of Tacna. On the other hand, there are amongst the series collected by Mr. Sanborn two adults from Choquelimpie, above Tacna, which are virtually topotypes of *E. unicolor*, if we accept d'Orbigny's first locality—Cordillera of Tacora—as terra typica. These agree in every detail

¹Amer. Mus. Novit., 160, pp. 4-5, 1925.

²Univ. Calif. Pub. Zool., 24, pp. 460-461, 1926.

with skins from other parts of Chile, including a number from Aconcagua and Santiago (*C. plumbea*). It thus results that *E. unicolor* is strictly referable to the pale Chilean form, *C. plumbea* becoming a synonym. The small, dark Peruvian representative has, accordingly, been separated by Mr. Zimmer as *P. u. inca*.¹

The plumages of this finch do not appear to have been properly understood hitherto. The adult female is closely similar to the male, viz. light neutral gray above, somewhat paler below, and merely differs by having dusky centers to the feathers of the mantle and faint dusky streaks on the sides of the breast. The birds with pale brownish, black-spotted upper parts, buffy edges to wing coverts and quills, and whitish broadly dusky-striped ventral surface obviously represent the juvenile plumage. The same conditions prevail in the Peruvian race of which a series of nearly twenty properly sexed specimens has been examined. The subject will be more fully discussed by Mr. Zimmer in one of his forthcoming papers. Specimens taken from October to December are in more or less worn plumage, while those secured in April and June (in Antofagasta and Tacna) have just completed their annual molt.

P. u. unicolor is the palest of the numerous races of this group and can hardly be confused with any other except *P. u. tucumanus* Chapman,² which, in addition to rather smaller size, differs by slightly darker coloration, less whitish abdomen, and narrower white edges to the under tail coverts in the gray (adult), and somewhat broader streaking below in the striped (juvenile) dress. A series from various localities in the Bolivian Department of Cochabamba, courteously loaned by the Carnegie Museum, agrees well with twenty skins from Las Pavas, Tucumán, in the collection of Field Museum.

P. u. unicolor is an inhabitant of the Puna Zone. It nests in the Cordilleras between 6,000 and 15,000 feet, but descends to lower altitudes after the breeding season. Examples from the extreme south of its range, Tierra del Fuego and Straits of Magellan, average slightly larger than those from Chile proper.

29. *Phrygilus alaudinus alaudinus* (Kittlitz)

Fringilla alaudina Kittlitz, Kupfert. Naturg. Vog., Part 2, p. 18, pl. 23, fig. 2, 1832—Chile = Valparaiso (see Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 20, 1921—type in Leningrad Museum); Darwin, p. 94—Val-

¹Proc. Biol. Soc. Wash., 42, p. 88, 1929—mountains near Huánuco, Peru.

²Amer. Mus. Novit., 160, p. 4, 1925—above Tafi del Valle, Tucumán.

paraíso; Fraser (1), p. 112—Chile (breeding habits); Kittlitz (3), pp. 135, 173—Valparaíso and Quillota.

Emberiza guttata Meyen, Nov. Act. Acad. Leop. Carol., 16, Suppl., p. 85, pl. 12, fig. 1, 1834—Santiago.

Fringilla (Niphaea) laciniata Peale, U. S. Expl. Exp., 8, p. 121, 1848—Valparaíso, Chile.

Chlorospiza alaudina Des Murs (2), p. 357; Germain, p. 312—Santiago (breeding habits); Philippi (12), p. 265—central provinces; Landbeck (9), p. 257—on the seacoast mountains at Llico, Curicó; E. Reed (2), p. 544—Cauquenes, Colchagua; Lataste (1), p. CXV—Ninhue, Maule; idem (4), p. XXXIV—Cerro de las Lajuelas, Curicó; idem (5), p. LXII—Llohué, Maule; Waugh and Lataste (2), p. CLXXII—San Alfonso, Quillota; Gigoux, p. 86—Caldera, Atacama.

Phrygilus alaudinus Pelzeln (2), p. 93—Chile; Sclater (2), 1867, pp. 322, 337—Chile; Salvin (2), p. 421—Coquimbo; E. Reed (2), p. 200—Chile; Lane, p. 18—Viña del Mar (Valparaíso) and Coronel (Arauco); Allen, p. 83—Valparaíso; Albert (1), 108, p. 220—Chile (monog.); Barros (4), p. 149—Ñilahue, Curicó; idem (5), p. 190—Cordillera of Aconcagua; Housse (2), p. 148—San Bernardo; Jaffuel and Pirion, p. 110—Marga-Marga, Valparaíso; Bullock (4), p. 190—Angol, Malleco.

Phrygilus alaudinus alaudinus Wetmore (3), p. 407—Concon.

Range in Chile.—From Atacama to Cautin.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♀ ad., Aug. 22; Domeyko, ♂ ad., ♀ ad., Aug. 10, 16.—Coquimbo: La Compañía, ♂ ad., Oct. 31; Tambillos, ♂ (first annual), July 8; Romero, ♀ ad., July 30; Paiguano, two ♂♂ ad., ♀ ad., June 19, 25.—Valparaíso: Olmué, ♂ (first annual), June 1.—Cautin: Rio Lolen, Lonquimai Valley (alt. 3,600 feet), ♂ ad. (in worn breeding plumage), Feb. 12.

Very little is known about the breeding range of this species, though from published records the center of its distribution would seem to lie between Coquimbo and Curicó. Barros found it a common resident at Ñilahue, in the last-named province, and Sanborn obtained a breeding male even farther south, near Rio Lolen, in the Lonquimai Valley, Cautin. In Aconcagua, according to Barros, it inhabits the Precordillera and the Cordillera up to 1,650 meters, but descends in the fall to lower altitudes and the coastal plains. The male taken by Sanborn at La Compañía, Coquimbo, being in worn breeding garb, tends to indicate that the species—at least, occasionally—breeds near the coast.

It seems doubtful whether *P. a. alaudinus* is found anywhere outside of Chile, since birds from western Bolivia that have been referred to it are more likely to belong to the larger *P. a. venturii*

Hartert,¹ of western Argentina. In Peru and Ecuador it is represented by the very distinct *P. a. bipartitus* Zimmer.²

30. *Phrygilus plebejus plebejus* Tschudi

Phrygilus plebejus Tschudi, Arch. Naturg., 10, (1), p. 290, 1884—Peru.

Phrygilus plebejus Sclater (4), 1886, p. 397—Huasco, Sitani, and "Lalcalhuay," Tarapacá; E. Reed (4), p. 200—Tarapacá; Albert (1), 108, p. 222—Tarapacá and Tacna (monog.).

Range in Chile.—Northern provinces, from Antofagasta northwards, at high elevations (Puna Zone).

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), two ♂♂ ad., Oct. 9, 11.

The specimens agree with a series from Peru and Argentina (Maimara, Jujuy; Laguna Blanca, Catamarca).

This species has a wide range throughout the Puna Zone of Peru, Bolivia, and western Argentina, down to Mendoza. Within Chile, it has previously been found by Carlos Rahmer in the Cordillera of Tarapacá. It is apparently absent from the central and southern provinces.

31. *Phrygilus fruticeti fruticeti* (Kittlitz)

Fringilla fruticeti Kittlitz, Kupfert. Naturg. Vög., Part 2, p. 18, pl. 23, fig. 1, 1832—Valparaiso, Chile; Darwin, p. 94—northern Chile [=Coquimbo] and Cordillera of central Chile; Fraser (1), p. 113=Chile; Kittlitz (3), p. 154—near Valparaiso.

Fringilla erythrorhyncha Lesson, L'Institut, 2, No. 72, p. 317, 1834—Coquimbo; idem in Bougainville, Journ. Navig. Thétis, 2, p. 324, 1837—Coquimbo.

Emberiza luctuosa Eyndoux et Gervais, Mag. Zool., 6, cl. 2, p. 24, pl. 71, 1836—Chile; idem, Voyage Favorite, 5, (2), p. 50, pl. 19, 1839—Chile; Bridges, p. 94—Chile, lat. 34°–35°.

Chlorospiza fruticeti Des Murs (2), p. 357; Philippi (12), p. 264; Landbeck (9), p. 256—Chile, up to 12,000 feet; E. Reed (2), p. 543—Cauquenes, Colchagua; Philippi (15), p. 159—Sibaya (Tarapacá) and Antofagasta; Lataste (1), p. CXV—Ninhue, Maule; Waugh and Lataste (2), p. CLXXII—San Alfonso, Quillota; Lataste (11), p. 170—Santa Teresa; Gigoux, p. 86—Caldera, Atacama.

Emberiza carbonaria (not of Lafresnaye and d'Orbigny) Bibra, p. 130—Cordillera [of Santiago].

Chlorospiza erythrorhyncha Philippi (8), Reise, p. 162—Miguel Diaz, Antofagasta.

¹Nov. Zool., 16, p. 180, 1909—Lagunita, Tucumán.

²Field Mus. Nat. Hist., Zool. Ser., 12, p. 61, 1924—Cajamarca, Peru.

Phrygilus fruticeti Pelzeln (2), p. 93—Chile; Sclater (2), 1867, pp. 322, 337—Chile; Sharpe, p. 7—Coquimbo; Sclater (4), p. 397—Sibaya, Tarapacá; Allen, p. 83—near Valparaíso; Albert (1), 108, p. 216—Chile (monog.); Schalow (2), p. 724—Ovalle, Coquimbo; Barros (4), p. 149—Ñilahué, Curicó; idem (5), p. 190—Cordillera of Aconcagua; Housse (2), p. 147—San Bernardo; Jaffuel and Pirion, p. 110—Marga-Marga, Valparaíso; Barros (10), p. 363—Aconcagua.

Phrygilus coracinus Sclater, P. Z. S. Lond., 1891, p. 133, pl. 13—eight leagues from Sacaya, Tarapacá; Lane, p. 18—near Sacaya; E. Reed (4), p. 200—Tarapacá (ex Sclater).

Range in Chile.—From Tacna to Curicó.

Material collected.—Tacna: Putre (alt. 11,600 feet), three ♂ ad., two ♀ ♀ ad., June 19, July 3, 8.—Atacama: Domeyko, ♂ ad., ♀ ad., Aug. 14, 15.—Coquimbo: La Compañía, ♂ (first annual), Oct. 31; Romero, ♂ (first annual), two ♀ ♀, July 11, 18, 30.—Valparaíso: Olmué, four ♂ ♂ (first annual), two ♀ ♀, May 27, 28, 31, June 1, 2, 3.—Santiago: Lampa, ♂ ad., ♀ ad., May 12.—O'Higgins: near Sewell, ♂ (first annual), May 3.

Additional specimens.—Tarapacá: Estancia eight leagues northeast of Sacaya, two ♂ ♂ ad. (including the type of *P. coracinus*), March 20, 1890. A. Lane; Sibaya, ♂ ad., Jan. 9, 1886. C. Rahmer; "Iquique," ♂ ad. H. Rowland.—Coquimbo: Coquimbo, ♂ ad., Aug. 25, 1879. R. W. Coppinger (all in the British Museum).

I am unable to make out any geographic variation among Chilean birds, either in size or color. The two skins from the Cordillera of Tarapacá (eight leagues northeast of Sacaya) described by Sclater as *P. coracinus* turn out to be merely unusually dark males of *P. f. fruticeti* in exceedingly worn plumage.¹ While identical in dimensions and structure with males from other localities, they have more black on the under parts than any other specimen we have seen. The type, No. 201, A. A. Lane Collection, has the entire sides of the head and neck as well as the under parts down to the middle of the abdomen uniform black, the feathers of the flanks being broadly edged with slate gray; the anal region grayish white, with dark gray central spots; the under tail coverts black, broadly margined all around with white; the axillaries and under wing coverts black like the breast. A second specimen taken in the same locality on the same day (No. 200, A. A. Lane), however, shows some gray spots on the sides of the neck; the black underneath is less extensive, leaving a much larger abdominal area white, and is strongly inter-

¹The figure in the P. Z. S. Lond., 1891, pl. 13, is utterly misleading. It conveys quite a wrong impression as to the bird's size and general appearance.

mixed with slate gray on the flanks, while the under tail coverts are mostly white, as in *fruticeti*. Both specimens are worn to such a degree that the gray lateral edges on the mantle and the white apical spots of the wing coverts have almost completely disappeared. In the type the black color even predominates on the rump, which, in the other example, is mainly slate gray as in *fruticeti*, though slightly mottled with black. An adult male (in somewhat better plumage) collected by P. O. Simons at Pampa Olliaga, Dept. Oruro, Bolivia, 67° W. 19° 3' S. (alt. 3,700 meters), on October 19, 1901, is very similar to A. Lane's No. 200, but approaches the normal type of *P. fruticeti* by having brownish edges to the dorsal feathers and inner secondaries, and much more gray on rump and upper tail coverts. On the other hand, an adult male secured by Carlos Rahmer at Sibaya, Tarapacá, hence close to the type locality of *P. coracinus*, on January 9, 1886, as well as one from Potosi (alt. 4,400 meters), Bolivia, taken by P. O. Simons on September 27, 1901, and Sanborn's series from Putre, Tacna, all of which, on geographical grounds, ought to belong to *P. coracinus*, do not differ in the least from *fruticeti*, of central Chile.

P. f. fruticeti thus appears to range from Tacna and western Bolivia (Oruro, Potosi) all over northern and central Chile south at least to Curicó. It breeds in the Cordilleras, from 5,000 up to 15,000 feet, descending during the cold season to lower altitudes and even to the seacoast. This finch is also widely distributed in the Argentine Andes, from Tucumán and Catamarca down to Patagonia. A series from western Neuquen (Sierra de la Angostura; Paso Limay; Rio Traful) and others from Patagonia (Chubut) agree with those from Chile.

P. f. peruvianus Zimmer,¹ of Peru and extreme northern Bolivia (La Paz) is constantly smaller, and the adult males in fresh plumage are more broadly streaked with black above.

MEASUREMENTS OF ADULT MALES

| <i>P. fruticeti fruticeti</i> | Wing | Tail |
|---|------------|----------|
| Three from Putre, Tacna | 98,101,101 | 84,86,87 |
| One from Oruro, Bolivia | 105 | 82 |
| Two from near Sacaya, Tarapacá ² | 102,105 | 85,87 |
| One from Sibaya, Tarapacá | 98 | 81 |
| One from "Iquique," Tarapacá | 103 | 84 |
| One from Potosi, Bolivia | 105 | 82 |
| One from Domeyko, Atacama | 101 | 84 |

¹Field Mus. Nat. Hist., Zool. Ser., 12, p. 63, 1924—Matucana, Dept. Lima, Peru.

²Including the type of *P. coracinus* Sc.

| <i>P. fruticeti fruticeti</i> | Wing | Tail |
|-----------------------------------|-------------------------|-------------|
| One from Coquimbo | 101 | 85 |
| One from Lampa, Santiago | 98 | 80 |
| One from Laguna Blanca, Catamarca | 105 | 84 |
| One from Puente del Inca, Mendoza | 102 | 85 |
| Six from western Neuquen | 98,98,99,99, 100,102 | 79-83 |
| One from Chubut | 99 | 78 |
| One from Rio Negro | 101 | 82 |
| <i>P. fruticeti peruvianus</i> | | |
| Three from Cajamarca, Peru | 92,94,95 | 74,76,78 |
| Four from Macate, Ancachs | 90,94,95,95 | 76,78,78,79 |
| Two from Culcui, Marañon River | 94,94 | 76,78 |
| Four from Surco, Lima | 92,95,96,98 | 78,80,80,84 |
| Three from above Lima | 94,96,97 | 80,80,81 |
| Four from Matucana, Lima | 94,94,96,98 | 73,74,76,— |
| Two from Arequipa | 94,97 | 75,79 |
| One from Chibuata, Arequipa | 99 | 81 |
| Two from La Paz, Bolivia | 97,98 | 79,80 |

32. *Phrygilus erythronotus* (Philippi and Landbeck)

Chlorospiza erythronota Philippi and Landbeck, Anal. Univ. Chile, 19, p. 610, 1861—Putre or "Parunicota" [=Parinacota], Tacna; idem, Arch. Naturg., 29, (1), p. 121, 1863—same locality (descr. of immature).

Diuca behni Reichenow, Ornith. Monatsber., 15, p. 201, 1907—Potosi, Bolivia (type in Berlin Museum examined; =adult male); Ménégau, Bull. Soc. Philom. Paris, (10), 1, p. 210, 1909—Pulacayo, Oruro, Bolivia (spec. examined).

Range.—Puna Zone of extreme northern Chile, in province of Tacna, and western Bolivia (Pulacayo, Oruro; Potosi and Livichuco, Potosi).

Material collected.—Tacna: Choquelimpie (alt. 15,000 feet), two ♂♂ ad., one ♀ imm., June 22, 23, 26; Las Cuevas, near Putre (alt. 13,500 feet), ♀ imm., June 20, 1924.

On receiving this small series, it immediately occurred to me that *C. erythronota*, described from a single bird secured by Froben in June in the Cordillera of Tacna, either at Putre or Parinacota, might have been wrongly identified by authors, since our specimens, virtually topotypes of Philippi and Landbeck's species, proved to be decidedly different from the rusty-backed *Phrygilus* of northwestern Argentina, to which that name had generally been applied. In the adult male I at once recognized the rare "*Diuca*" *behni* heretofore only known from a few Bolivian skins in the collections at Paris and Berlin. The immature females obtained by Sanborn correspond fairly well to the account of *C. erythronota*, except that the describers' term "rostrum" would seem to be ill-chosen for the bird's wood-brown

(dusky-streaked) back.¹ In order to have the question definitely settled, my colleague Mr. Karl P. Schmidt on his recent visit to Chile very kindly took specimens from Tacna and Jujuy with him for comparison with the material in the Museo Nacional at Santiago, and reports as follows: "There are two specimens in the Chilean National Museum labeled '*P. erythronotus* Ph. & Landb. Chile N.' One of these is plainly the Argentine bird, the other is as evidently '*Diuca*' *behni*. In spite of the statement that 'Rucken und Schultern sind rostroth,' the description agrees best with the specimen which resembles Field Museum, No. 62,017 (♀, Las Cuevas, near Putre, June 20, 1924), because (1) the light tips of the cheek-feathers are very evident; (2) the dark gray streak on each dorsal feather² is clearly distinguishable; (3) the smaller wing-coverts are gray-edged; (4) the eyelid-feathers are white; (5) the gray (darker) mesial streak on each feather on the top of the head is very well marked. The specimen which is thus determined as the type bears the number 458."

To this I have only to add that I fully concur with Mr. Schmidt's disposition of the case, since the dusky centers of the dorsal feathers, expressly mentioned by the describers of *C. erythronota*, constitute a conspicuous feature in the immature plumage of "*Diuca*" *behni*, whereas both sexes of the allied Argentine *Phrygilus* have the back and scapulars wholly uniform rufous. Geographical considerations lead to the same conclusion. The specimens of "*Diuca*" *behni* are from the Quebrada de Putre (an affluent of the Rio Lluta), that is from the very same region, whence the type of *C. erythronota* also originated. The rufous-backed *Phrygilus*, on the other hand, was found way farther south on the border-line of Antofagasta and Bolivia, and in view of their close (perhaps subspecific) affinity it is altogether unlikely that they should occur side by side in the Cordillera of Tacna.

Considering all facts, it seems pretty fair to assume that No. 458, of the Museo Nacional de Chile, which Mr. Schmidt found identical with one of our Putre birds, is the actual type of *C. erythronota*. The second example so marked (No. 460, Museo Nacional de Chile) probably was subsequently received from a more southern locality. It is much to be regretted that so little care has been

¹ It is well to remember, however, that Philippi and Landbeck (Arch. Naturg., 31, (1), p. 96, 1865) also use the term "rostroth" for the buffy edges of the wing coverts and secondaries in the juvenile plumage of *Muscisaxicola rufivertex*.

² "Jede Feder [des Ruckens und der Schultern] in der Mitte mit grauem Längsstriche oder Flecke" (Philippi and Landbeck, l. c.).

exercised in properly labeling the many types in the Chilean National Museum.

Through the good offices of Dr. E. Stresemann and Mons. J. Berlioz I have been enabled to directly compare our specimens with the type and three other males of "*Diuca*" *behni*, and quite recently Mr. N. B. Kinnear obligingly sent me five additional skins from the collection of the British Museum. All are from the highlands of Oruro and Potosi in Bolivia and, except for their slightly larger size and somewhat stouter bills, they agree with the males from northern Chile. Like the latter, one of the specimens, an adult male from the vicinity of Pulacayo, May 27, 1903 (Paris Museum, No. 1907. 765), is in perfectly fresh plumage, all three having the outer margins to the tertials pale wood-brown and the flanks tinged with buff. In worn plumage, as represented by the type of "*D.*" *behni* taken by Professor Behn at Potosi on March 19, 1847, and by four adults secured by P. O. Simons at Potosi and Livichuco in August and September, 1901, the gray portions are somewhat darker and duller, while the brownish edging to the inner secondaries has disappeared through wear. A second specimen from Pulacayo (sex and date of capture not recorded on the label) is in full molt. Like one of our skins (June 23, 1924), it shows a faint brownish shade on the middle of the back, whereas in all of the eight other adults the entire dorsal surface, from forehead to tail coverts, is uniform gray (between light neutral and neutral gray). Two adult females in the British Museum are similar to the males in coloration, but have slightly shorter wings and tail.

The immature females¹ differ by somewhat duller, more brownish gray, dusky-streaked pileum and hindneck; dingier (brownish gray rather than light neutral gray) pectoral band and sides of the head, the latter, however, similarly marked with whitish as in the adults; deeper buff flanks and under tail coverts; wider and brighter (avellaneous) edges to the inner secondaries; and especially by having the back and scapulars wood-brown, each feather being largely centered with dusky.

This species has no close relation to "*Diuca*,"² but agrees in every structural detail with the members of the genus *Phrygilus*,

¹No males in this stage are available, but they are not likely to be different.

²It bears a superficial resemblance to *Diuca speculifera*, but, in addition to its shorter wings and much shorter, slenderer bill, it may be easily separated by the paler gray pectoral band *not* extending along the flanks as well as by lacking the white outer web to the external rectrix and the white wing-speculum at the base of the second to the ninth primaries.

particularly *P. dorsalis*, which it obviously replaces in western Bolivia and extreme northern Chile. While viewed from below the two forms are perfectly alike, *P. erythronotus* is easily distinguished by lacking the pecan brown dorsal area so characteristic of *P. dorsalis*, which is, however, suggested by the wood-brown mantle of its immature plumage.

P. erythronotus is as yet only known from the Puna Zone of Tacna and the adjoining Bolivian provinces of Oruro and Potosi, but it will doubtless also be found to occur in the Cordillera of Tarapacá.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|------------------------------|-------------|----------|--|
| Two from Choquelimpie, Tacna | 97,101 | 68,71 | 11 $\frac{3}{4}$, 11 $\frac{3}{4}$ |
| Three from Potosi, Bolivia | 108,108,111 | 74,77,79 | 12 $\frac{1}{2}$, 12 $\frac{1}{2}$, 13 |
| Two from Livichuco, Bolivia | 107,108 | 76,78 | 13,13 |
| One from Pulacayo, Bolivia | 104 | 78 | 12 $\frac{1}{2}$ |
| Adult females | | | |
| One from Potosi, Bolivia | 103 | 72 | 13 |
| One from Livichuco, Bolivia | 105 | 75 | 14 |
| Immature females | | | |
| Two from Tacna | 93,96 | 62,65 | 11 $\frac{1}{2}$, 12 |

33. *Phrygilus dorsalis* Cabanis

Phrygilus dorsalis Cabanis, Journ. Orn., 31, p. 109, 1883—Cerro Vayo, near the snow line, Prov. Tucumán (type in Berlin Museum examined).

Phrygilus erythronotus (not of Philippi and Landbeck) Sharpe, Cat. B. Brit. Mus., 12, p. 796, 1888—Tucumán; Dabbene, Anal. Mus. Nac. Hist. Nat. Buenos Aires, 18, p. 399, 1910—Tucumán.

Range.—Puna Zone of northern Chile (Antofagasta) and northwestern Argentina (Maimara, Cerro de la Laguna, Jujuy; Cerro Muñoz, Cumbre de Calchaquies, Laguna Alta, and Laguna de Pelado, Tucumán).

Material collected.—Antofagasta: Silala, Chile on Bolivia boundary (alt. 14,160 feet), two ♂♂, April 26, 1924.

Both of these specimens have an extensive area on the back, including the scapulars, plain pecan brown, and agree with a series from the Andes of Tucumán in the Tring Museum. One of the birds (No. 62,024) is slightly tinged with buffy brownish on the head and rump, the pectoral band is paler, and the sides are much deeper, almost cinnamon-buff. It is probably a bird of the year.

The sexes are alike, male and female having the back—except the lower rump and tail coverts which are neutral gray like the

pileum and hind neck—bright pecan brown, without the slightest trace of dusky central streaks.

The range of *P. dorsalis* is evidently more southerly than that of *P. erythronotus*, and comprises the Puna Zone of northwestern Argentina, from Tucumán north to Jujuy, whence it extends west to the Chilean Province of Antofagasta.

C. erythronota turning out to refer to the foregoing species, the proper name of the present bird becomes *P. dorsalis*, based on specimens from the Cerro Vayo, Tucumán.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|------------------------------|------------------------------|-------------------|---------|
| One from Silala, Antofagasta | 104 | 69 | 11 |
| Six from Andes of Tucumán | 95, 98, 98, 100, 100, 103 | 65–68, once 73 | 12–12½ |
| Adult females | | | |
| Two from Andes of Tucumán | 96, 98 | 64, 66 | 12½, 13 |
| One from Maimara, Jujuy | 99 | 68 | 12½ |

34. *Melanodera xanthogramma barrosi* Chapman

Melanodera xanthogramma barrosi Chapman, Amer. Mus. Nov., 96, p. 12, 1923—Rio Blanco, 9,500 feet alt., Prov. Aconcagua.

Chlorospiza xanthogramma Bridges, 1841, p. 94—"in the valleys near the summit of the Andes on the east and west sides" [between 34° and 35° S.] = Prov. Colchagua; Philippi (12), p. 264; Landbeck (9), 1877, p. 255—not rare on the highest passes over the Cordillera between Chile and Mendoza.

Phrygilus xanthogrammus Albert (1), 108, p. 214—part, Cordilleras of Santiago; Barros (5), p. 190—Salto de los Piuquenes up to Castro, Prov. Aconcagua.

Phrygilus xanthogrammus barrosi Barros (10), p. 363—Cordillera of Aconcagua.

Range.—High Cordilleras of central Chile, in provinces of Aconcagua, Santiago, and Colchagua.

Material examined.—Chile (unspecified): one ♂ ad. T. Edmunds (British Museum).

Very little is yet known about the distribution of this species, which, according to Barros, breeds in the Cordilleras of Aconcagua between elevations of 8,000 to 11,000 feet. It was first met with by Bridges near the summit of the Andes in Colchagua. Landbeck reports it as not uncommon on the highest passes over the Cordillera between Chile and Mendoza, and gives good descriptions of both sexes. Señor R. Barros, in April, 1921, secured seven specimens in fresh winter plumage on the road from Salto de los Piuquenes to Cajon de Castro, Aconcagua, some of which passed into the hands of Dr. F. M. Chapman, who named them in honor of the collector,

basing the subspecific separation on larger size and lesser amount of yellow in the male sex. The only Chilean example which we have seen—an adult male in worn breeding plumage without specified locality—differs from several typical *M. x. xanthogramma*, from the Straits of Magellan, by greater dimensions, larger (both stouter and longer) bill, pure white (instead of canary yellow) tail-markings, and by having much more yellow on the breast. It measures: wing, 110 (against 103–105); tail, 70 (against 60–65); bill, $13\frac{1}{2}$ (against $11\frac{1}{2}$ in *M. x. xanthogramma*). So far as is possible to judge from a single specimen, *M. x. barrosi* appears to be a valid race and probably represents in the Andes of central Chile the typical form known to range north to the Arroyo Las Bayas, in the vicinity of Lake Nahuel Huapi, western Rio Negro.¹

35. *Diuca diuca diuca* (Molina)

Fringilla diuca Molina, Saggio Stor. Nat. Chili, p. 249, 1782—Chile; Kittlitz (1), p. 192, pl. 11—Chile (habits, full description); Eyndoux and Gervais (1), p. 18, pl. 69—Valparaíso; idem (3), p. 44, pl. 17—Valparaíso; Darwin, p. 93—part, humid forests of Chiloé and Valparaíso; Fraser (1), p. 113—Chile (habits); Yarrell, p. 53 (eggs); Des Murs (2), p. 359—Chile in general; Boeck, p. 505—Valdivia; Kittlitz (3), pp. 114, 137, 147, 154—San-Tomé and near Valparaíso; Frauenfeld, p. 637—near Santiago; Philippi (12), p. 265—Chile, part; Landbeck (9), p. 258—Chile (habits, nest, and eggs); Lataste (1), pp. CXIV, CXV—Bureo, Ñuble, and Ninhue, Maule; idem (4), p. XXXIV—Caillihue, Curicó; idem (5), p. LXII—Llohué, Itata; Waugh and Lataste (1), p. LXXXVII—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso, Quillota; Housse (2), p. 148—San Bernardo, Santiago.

Dolichonyx griseus Lesson, L'Institut, 2, No. 72, p. 317, 1834—Valparaíso; idem in Bougainville, Journ. Navig. Thétis, 2, p. 324, 1837—Valparaíso.

Emberiza diuca Lafresnaye and d'Orbigny, Syn. Av., 1, p. 77, 1837—part, Valparaíso.

Pipilo cinerea Peale, U. S. Expl. Exp., 8, p. 123, 1848—road from Valparaíso to Santiago.

Diuca molinae (Reichenbach MS.) Bibra, Denks. math.-naturw. Kl. Akad. Wiss. Wien, 5, p. 130, 1853—Cordillera [of Santiago].

Hedyglossa diuca Hartlaub (3), p. 214—Valdivia; Pelzel (2), p. 93—Chile (egg descr.).

Phrygilus diuca Cassin, p. 180—Santa Lucia; Germain, p. 312—Santiago (nesting habits).

Diuca grisea Sclater (2), 1867, pp. 322, 327—Chile; Sclater and Salvin (2), Ibis, 1870, p. 499—Ancud, Chiloé; Salvin (2), p. 421—part, Talcaguano; E. Reed (4), p. 200—Chile; Lane, p. 18—Hacienda Mansel (near Santiago)

¹See Wetmore, Univ. Calif. Pub. Zool., 24, p. 462, 1926.

and Coronel; Albert (1), 108, p. 231—Chile (monog.); C. S. Reed (1), p. 21—Concepción; Housse (1), p. 49—Isla La Mocha; Bullock (3), p. 125—Cerro de Nahuelbuta, Malleco; idem (4), p. 191—Angol, Malleco.

Diuca griseus E. Reed (2), p. 544—Cauquenes, Colchagua.

Diuca diuca Allen, p. 84—Valparaíso;¹ Schalow (2), p. 723—Valparaíso and Santiago; Pässler (2), p. 27—Coronel (nest and eggs); Barros (4), p. 150—Nilahue, Curicó; idem (5), p. 191—Cordillera of Aconcagua, up to 2,000 meters elev.; Wetmore (3), p. 408—Concon.

Diuca diuca diuca Pässler (3), p. 478—Coronel (habits, nest, and eggs).

Diuca matutina [sic] Jaffuel and Pirion, p. 109—Marga-Marga Valley, Valparaíso.

Range in Chile.—From Aconcagua south to Llanquihue (Rio Ñirehuau).

Material collected.—Santiago: Polpaico, ♂ ad., Sept. 1, 1925. C. S. Reed.—Concepción: Hacienda Gualpencillo, three ♂♂ ad., March 31, April 3, 12.—Malleco: Curacautin, ♂ imm., Jan. 12.—Valdivia: Máfil, ♂ ad., ♂ imm., two ♀♀ ad., two ♂♂ juv., Feb. 10–28.—Chiloé Island: Quellon, three ♂♂ ad., two ♂♂ imm., two ♀♀ ad., ♀ imm., Dec. 29, Jan. 1–5.—Llanquihue: Rio Ñirehuau, ♂ imm., March 17.

Additional specimens.—Valparaíso: Concon, two ♂♂ ad., one ♀ ad., April 24–28, 1921. A. Wetmore (United States National Museum); Valparaíso, one (unsexed) adult. D'Orbigny (Paris Museum).—Concepción: Concepción, ♂ imm., Aug. 7, 1903. C. S. Reed.—Valdivia: Valdivia, ♂ ad., August, 1896. A. von Lossberg (Berlepsch Collection).—Llanquihue: Puerto Varas, ♂ ad., ♂ juv., Nov. 30, Dec. 1, 1907. A. Lendl (Berlepsch Collection).

Birds from Valdivia and Chiloé generally have the rufous on the flanks and under tail coverts slightly deeper in tone, but the variation is not quite constant. The single specimen from the Rio Ñirehuau, according to size of bill and other dimensions (wing 90; tail 73; bill 14), is typical *diuca*, and does not at all approach *D. d. minor*.

Adult females have the chest band deep gray like the males, but are somewhat smaller, and the back as well as the flanks is conspicuously washed with brown. Birds (of either sex) in first annual plumage are similar to the female, but much more brownish above with rufescent brown edges to the remiges and wing coverts; the sides are buffy brown, and the gray pectoral band is overlaid with brownish. This plumage is apparently worn until the next molt when the definite adult dress is acquired.

¹Also erroneously recorded from "Reyes" and "Mapiri," Bolivia.

D. d. diuca is a very common bird throughout the greater part of central and southern Chile. It prefers the plains and hills, but occurs also in the lower Cordilleras up to altitudes of 5,000, rarely 6,000 feet. Outside of Chile, it is found all along the Argentine slope of the Andes from Mendoza to western Patagonia. Birds from Mendoza (four) and western Neuquen (Lake Nahuel Huapi and Rio Traful) are indistinguishable from Chilean specimens. A single adult male from Misionares, obtained in November, 1882, by the French Cap Horn Expedition, in the Paris Museum, also belongs here, its measurements (wing 93; tail 73; bill 13) being much too large for *D. d. minor*, which replaces the typical race in eastern Patagonia. The occurrence of *D. d. diuca* so far south and in the range of an allied form is no doubt exceptional.¹

36. *Diuca diuca crassirostris* subsp. nov.

Fringilla diuca (not of Molina) Darwin, p. 93—part, desert mountains of Copiapó; Philippi, *Reise Atacama*, p. 163—north as far as Miguel Díaz, Antofagasta; idem (12), p. 265—Chile, part; idem (15), p. 159—Atacama.

Diuca grisea (not of Lesson) Sharpe, p. 7—Coquimbo; Salvin (2), p. 421—part, Coquimbo; Gigoux, p. 86—Caldera.

Range.—Northern Chile, from southern Antofagasta (Miguel Díaz) to Coquimbo.

Material collected.—Atacama: Caldera, two “♀ ♀” ad., April 13, June 11, 1924. E. Gigoux; Ramadilla, Copiapó Valley, ♂ ad., Aug. 24; Domeyko, two ♂ ♂ ad., one ♀ ad., Aug. 11, 14.—Coquimbo: Romero, ♂ ad., July 11.

Type from Ramadilla, Copiapó Valley, Atacama, Chile, in Field Museum of Natural History. No. 62,150. Adult male. Aug. 24, 1923. C. C. Sanborn.

Similar to *D. d. diuca*, of central and southern Chile, but bill much heavier, being both longer and considerably deeper, and outer web of outermost rectrix partly white. Wing (male) 88–93; tail 72–76; culmen 16–18; depth of bill at base 12–13 mm.

This is a large-billed race of the well-known *D. d. diuca*, representing it in northern Chile from Coquimbo northward. The extent of the white on the lateral tail feathers is somewhat variable individually. It is most extensive in one of the Caldera birds (No. 62,126), which has the entire outer web white except for a small dusky sub-

¹Päessler (*Zeits. Ool. Ornith.*, 16, p. 30, 1906), by mistake, includes *Dinca* [sic] *minor* among the breeding birds of Coronel, Concepción. This record belongs, of course, to *D. d. diuca*, the only representative of the genus in that part of Chile.

apical streak (about 8 mm. long). In the second specimen from Caldera (No. 62,127) and another from Romero, Coquimbo (No. 62,146) this streak is more blackish, about twice as long (from 17 to 18 mm.), and occupies the whole width of the web, while the extreme base of the latter is likewise dusky. A female from Domeyko (No. 62,148) has the basal third and a short streak near the tip of the outer web dusky, while in two males from the same locality and another from Ramadilla (the type) the base and the apical third or fourth are of that color, the middle portion of the web being white for about 20 to 25 mm. In *D. d. diuca* the outer web of the lateral tail feathers is uniform dusky or blackish, sometimes with traces of a white marginal fringe in the middle; only a male from Polpaico, Santiago, approaches *D. d. crassirostris*, though the white area is still more restricted than in northern examples with the minimum of white.

Other constant color differences do not seem to exist, although I notice that in certain specimens from northern Chile the rufous patch on the sides of the vent is very pale, while the ochraceous edges to the under tail coverts are much reduced in extent.

The remarkably deep, heavy bill serves to distinguish this form without difficulty from its southern ally.¹ This feature is particularly striking in the two Caldera birds, which, though marked "♀" by the collector, I take to be adult males judging from their nearly pure gray upper parts. The only other female in the collection has the dorsal surface washed with brownish, though less so than in the same sex of typical *D. d. diuca*.

By the partly white outer web of the external rectrix and large bill, *D. d. crassirostris* diverges in the direction of *D. speculifera* (Laf. & d'Orb.). This species, however, is larger (wing of eighteen Bolivian and Peruvian specimens 109–118), possesses an extensive alar speculum formed by the white basal portion of the outer web of the second to ninth primaries, and lacks the white tips to the rectrices as well as every trace of rufous on the abdomen.

37. *Diuca speculifera* (Lafresnaye and d'Orbigny)

Emberiza speculifera Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 78, 1837—"in summis Andibus, Bolivia" (types in Paris Museum examined).

Diuca speculifera Albert, Anal. Univ. Chile, 103, p. 233—Tarapacá.

¹In *D. d. diuca* (twenty-seven specimens) the length of the culmen varies from 12½ to 14, and the depth of the bill at the base measures from 8 to 10 mm.

Range in Chile.—Extreme northern section, in provinces of Tarapacá and Tacna.

The only authority for the inclusion of this species in the Chilean fauna is Albert's statement (l. c.): "frecuenta las rejiones del norte de la república desde Tarapacá hasta Arica . . . hasta alturas de 4,500 i mas metros." Albert gives detailed measurements and full descriptions which clearly apply to the present species, but unfortunately neglects to tell us when, where, and by whom the specimens, presumably in the Chilean National Museum at Santiago, were collected. This information would have been the more welcome as neither Rahmer nor Lane nor Sanborn met with the species in Tarapacá or Tacna.

Its occurrence there is not unlikely, however, as it has been found at Salinas (above Arequipa), Peru, and in various parts of High Bolivia.

38. *Zonotrichia*¹ *capensis peruviansis* (Lesson)

Pyrgita peruviansis Lesson,² L'Institut, 2, No. 72, p. 317, Sept. 27, 1834—Callao, Peru; idem in Bougainville, Journ. Navig. Thétis, 2, p. 325, 1837—Callao.

Range in Chile.—Extreme north, in province of Tacna.

Material collected.—Tacna: Chacalluta, ♂ ad., ♀ ad., June 12, 16; Putre (alt. 11,600 feet), two ♀ ad., June 18.

Additional specimens.—Tacna: Arica, adult (unsexed), Jan., 1831. D'Orbigny (Paris Museum).

These birds agree in every particular with a topotypical series from the coast region around Lima, and differ from *Z. c. chilensis* by much broader black lateral stripes on the pileum. Their measurements are about the same: wing 74, (females) 71–74; tail 63, (females) 61, 65½, 68; bill 11½–12½.

39. *Zonotrichia capensis pulacayensis* (Ménégaux)

Brachyspiza capensis pulacayensis Ménégaux, Bull. Mus. Hist. Nat. Paris, 14, No. 7, "1908," p. 341, Jan., 1909—Pulacayo and Pampas de Pazña, Lake Poopo, Oruro, Bolivia (type from Pulacayo in Paris Museum examined).

Zonotrichia pileata Sclater (6), 1891, p. 133—Pica, Tarapacá; Lane, p. 20—part, Pica and Canchones (east of Iquique), Tarapacá.

¹Van Rossem (Auk, 46, pp. 548–549, 1929) has shown *Brachyspiza* to be inseparable from *Zonotrichia*.

²This name has several years' priority over *Pyrgita peruviana* Lesson (Rev. Zool., 2, p. 45, 1839—vicinity of Lima).

Range in Chile.—Northern section, in provinces of Tarapacá and Antofagasta.

Material collected.—Tarapacá: Pica (alt. 4,000 feet), two ♂♂ ad., May 23, 25; Canchones (east of Iquique), ♀ ad., May 30.—Antofagasta: Rio Loa (alt. 7,500 feet), three ♂♂ ad., two ♀♀ ad., April 19, Sept. 11–13.

The series from Tarapacá and Antofagasta, while agreeing with *Z. c. peruvienensis*, of Tacna, in the broad black lateral head stripes, is much more rufous, the mantle being little paler than the nuchal collar; the edges to the greater upper wing coverts and inner secondaries are much darker, tawny instead of from buff to ochraceous tawny; and the sides of the body are conspicuously more rufescent, varying from tawny-olive to mikado brown. Some of the specimens have been directly compared with the type of *Z. c. pulacayensis*, an unsexed adult bird in very fresh plumage, and, except for their slightly smaller size, were found to be identical with it.

Although the palest specimen—a female from Rio Loa—is but slightly more rufescent above than certain examples of *Z. c. peruvienensis*, and others are hardly brighter on the flanks, the series as a whole clearly stands out by the rufescence of its plumage, and seems to require recognition under a separate subspecific name. The dimensions appear to be somewhat larger, too. Wing (type) 82, (Rio Loa) 80, 78, 77, (Pica) 76, 75, (females) 74, 74, 75; tail (type) 74, (Rio Loa) 72, 71, 70½, (Pica) 68, 64, (females) 68; bill 11–12.

Z. c. pulacayensis is known to inhabit Tarapacá, Antofagasta, and the adjacent section of Oruro, but will doubtless be found to be more widely distributed in the highlands of western Bolivia.

40. *Zonotrichia capensis chilensis* (Meyen)

Fringilla chilensis Meyen, Nov. Act. Acad. Caes. Leop.-Carol., 16, Suppl., p. 88, 1834—Santiago de Chile.

Fringilla mertonii Audubon, Orn. Biogr., 5, p. 812, 1839—"Upper California," errore; idem, Birds of America, 1st 8vo ed., 3, p. 151, pl. 190, 1841—"Upper California."¹

Zonotrichia matutina (not of Lichtenstein) Darwin, p. 91—part, Valparaiso; Fraser (1), p. 113—Chile; Hartlaub (3), p. 214—Valdivia; Germain, p. 312—Santiago (nesting habits); Cassin, p. 180; Pelzeln (2), p. 93.

Fringilla australis (not of Latham) Peale, p. 119—part, Valparaiso.

¹The type, which is in the collection of the Academy of Natural Sciences, Philadelphia, was examined and pronounced by Sclater (P. Z. S. Lond., 25, p. 7, 1857), to be "nothing more than a Chilean specimen of *Zonotrichia pileata*, sive *matutina*" [= *Z. capensis chilensis* (Meyen)].

Zonotrichia pileata Sclater (2), 1867, pp. 322, 337—Chile; E. Reed (2), p. 544—Cauquenes, Colchagua; Salvin (2), p. 422—Coquimbo; Allen, p. 83—part, Valparaíso; Lane, p. 20—part, Arauco, Hospital, Valdivia (habits); Nicoll, p. 50—Valparaíso; Passler (2), p. 28—Coronel (nest and eggs); Housse (1), p. 49—Isla La Mocha; idem (2), p. 147—San Bernardo; Jaffuel and Pirion, p. 109—Marga-Marga, Valparaíso; Bullock (3), p. 125—Nahuelbuta, Malleco; idem (4), p. 190—Angol, Malleco.

Fringilla matulina Lesson (10), p. 136—Valparaíso; Des Murs (2), p. 360—Chile, part; Boeck, p. 505—Valdivia; Kittlitz (3), pp. 122, 135—San Tomé, Concepción, and Valparaíso; Philippi (12), p. 265—Chile in general; Landbeck (9), p. 258—Chile in general; Lataste (1), p. CXV—Ninhue, Maule; idem (4), p. XXXIV—Caillihue, Curicó; idem (5), p. LXII—Llohué, Maule; Waugh and Lataste (1), p. LXXXVII—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso, Quillota; Porter, Rev. Chil. Hist. Nat., 3, p. 179, 1899—Pabellón, Atacama; Gigoux, p. 86—Caldera.

Brachypiza capensis capensis (not of Muller) Barros (4), p. 149—Ninahue, Curicó, and Melipilla, Santiago; idem (5), p. 189—Valley of Aconcagua.

Brachypiza capensis chilensis Páessler (3), p. 477—Coronel (breeding habits); Wetmore (3), p. 419—Concón, Valparaíso.

Range in Chile.—From Atacama to the Guaitecas Islands.¹

Material collected.—Atacama: Ramadilla (Copiapó Valley), ♂ ad., two ♀ ♀ ad., March 23, Aug. 22, 24.—Coquimbo: La Compañía, ♀ ad., Oct. 31; Romero, ♂ ad., ♀ ad., July 17, 22; Paiguano (alt. 3,300 feet), ♂ ad., two ♀ ♀ ad., June 16, 20.—Valparaíso: Olmué, ♀ ad., June 3.—Santiago: San José de Maipo (alt. 3,000 feet), ♂ ad., Dec. 18.—Concepción: Hacienda Gualpencillo, six ♂ ♂ ad., three ♀ ♀ ad., March 30–April 21.—Malleco: Río Colorado (alt. 3,000 feet), ♀ ad., March 3.—Valdivia: Máfil, ♂ ad. (worn), ♂ (in juvenile molt), four ♂ ♂ juv., Feb. 15–27; Valdivia, ♂ juv., Dec. 18.—Chiloé Island: Quellón, three ♂ ♂ ad., ♀ ad., ♂ juv., Jan. 1–31.—Guaitecas Islands: Melinka, Ascension Island, three ♂ ♂ ad., one ♂ juv., Jan. 31, Feb. 1.

Additional specimens.—Aconcagua: Los Andes (alt. 3,000 feet), ♀ ad., May 9, 1925. R. Barros (Field Museum).—Valparaíso: Valparaíso, adult and juv. D'Orbigny (Paris Museum).—Santiago: Santiago, ♂ ad. (Munich Museum).—Valdivia: Valdivia, ♂ ad., ♀ ad. (Munich Museum).

Birds from Concepción agree with topotypes from Valparaíso and Santiago, though one of the males, by the reduction of the black lateral stripes on the pileum² forms the transition to *Z. c. australis*.

¹The status of the "Chingolo" occurring on the shores of Lake Nahuel Huapi is in doubt. Two adult females from Bariloche—the only ones we have seen—are too badly worn to be of use in deciding whether they are referable to *Z. c. chilensis* or *Z. c. choraules*.

²A similar specimen probably induced Páessler (Zeits. Ool. Orn., 16, p. 30, 1906) to list *Zonotrichia canicapilla* as breeding near Coronel, Concepción.

Those from Chiloé and Melinka do not appear to be different either. Specimens from the coast of Coquimbo and Atacama average slightly smaller, and have the crown, as a rule, somewhat paler gray, but the variation is insignificant. *Z. c. chilensis* may be recognized from *Z. c. pulacayensis* and *Z. c. peruviansis* by the much narrower, less compact black stripes along the sides of the pileum.

The "Chincol" is widely distributed in central and southern Chile, its range extending from the seacoast up to an altitude of 7,000 feet. R. Barros (p. 189) reports to have taken it once at Laguna de Castro, Aconcagua (about 10,000 feet), but there is a possibility that this record might be referable to the large, buffy-colored race treated under the next heading. An adult female taken by Señor Barros in the Cordillera of Aconcagua at an elevation of about 840 meters, however, is in every respect typical of *Z. c. chilensis*.

41. *Zonotrichia capensis sanborni* subsp. nov.

Brachyospiza capensis chilensis (not *Fringilla chilensis* Meyen) Barros (11), p. 315—Juncal, Prov. Santiago.

Range.—High mountains in provinces of Coquimbo (Baños del Toro), Aconcagua (?), and Santiago, extending into Argentina to the Cordilleras west of Mendoza (Potrerillos).

Material collected.—Coquimbo: Baños del Toro (alt. 10,600 feet), eight ♂♂ ad., four ♀♀ ad., Nov. 9–14, 1923.

Type from Baños del Toro (alt. 10,600 feet), Coquimbo, Chile, in Field Museum of Natural History. No. 61,882. Adult male. Nov. 12, 1923. C. C. Sanborn.

Adult.—Nearest to, and agreeing with, *Z. c. chilensis* in narrowness of the lateral black crown-stripes; but decidedly larger, with heavier bill, and coloration much paler and more buffy, the back being sandy brown, the edges to the wing coverts and secondaries cinnamon or tawny olive, and the sides of breast and abdomen pale sandy buff. The gray of the crown is even lighter than in *Z. c. chilensis*, from the coast of Atacama.

Wing (male) 80 (two), 81, 82, 83 (two), 85, 87, (female) 79, 80, 81, 81; tail 64 (two), 66, 67 (two), 68, 69, 72, (female) 64–67; bill 11–12½.

The discovery of this seemingly well-marked form of the "Chincolo" in the mountains of Coquimbo is quite surprising. The series secured by Mr. Sanborn is in somewhat worn plumage, indicating the approach of the breeding season. When compared with *Z. c.*

chilensis in similar condition, it is easily separable by its much paler coloration and decidedly larger size. Six specimens, including two adults, from Potrerillos, in the Cordillera west of Mendoza, alt. 4,800 to 5,000 feet, agree in size (wing of adult males, 84–86 mm.) and large bill with the series from Baños de Cauquenes. They are just in the process of finishing their annual molt, most of the body plumage having already been renewed,² and are therefore not comparable as to coloration which is much more saturated throughout. In the Potrerillos birds the nuchal collar is much deeper in tone, varying from Kaiser brown to chestnut, instead of between hazei and cinnamon rufous; the back much more rufescent, decidedly more fawn than in the similar stage of *Z. c. australis*; the edging to the secondaries and greater upper wing coverts mikado brown; the buffy brown wash along the flanks considerably darker. These differences appear to be purely seasonal, and correspond to the amount of variation that may be observed between the fresh fall plumage and the worn breeding dress in the allied *Z. c. australis*. From *Z. c. choraules* Wetmore and Peters,³ to which they had been referred by Peters, the Potrerillos birds differ by larger size, heavier bill, much more rufescent dorsal surface, and markedly narrower as well as less compact black lateral crown-stripes. I have little doubt that they should be assigned to *Z. c. sanborni*, although the examination of a more satisfactory series seems desirable.

Z. c. sanborni obviously is an altitudinal representative of *Z. c. chilensis* in the upper Temperate Zone of central Chile and adjacent parts of Argentina.

42. *Zonotrichia capensis australis* (Latham)

Fringilla australis Latham, Ind. Orn., 1, p. 466, 1790—based on "Rusty-collared Finch" Latham, Gen. Syn. Birds, Suppl., p. 170, Tierra del Fuego.⁴

Range in Chile.—Province of Magallanes north to Llanquihue (Rio Ñirehuau).

Material collected.—Llanquihue: Casa Richards, Rio Ñirehuau, ♂ ad., March 17, 1923.

¹Twenty adult males of *Z. c. chilensis* measure on the wing from 72–78, very rarely 79 or 80; fifteen females, from 70–75, one 77 mm.

²They were taken on March 16 and 17, 1921, by Mr. J. L. Peters.

³Proc. Biol. Soc. Wash., 35, p. 44, 1922—General Roca, Gob. del Rio Negro

⁴Although short, the description, "general colour brown, with a ferruginous collar," in conjunction with the locality, cannot apply to any bird but *Zonotrichia canticapilla* Gould.

This specimen agrees with a large series from Patagonia (Passo Ibañez, Dept. Santa Cruz; Huanuluan and Maquinchao, Gob. del Rio Negro) in general features, especially the nearly uniform light gray pileum, but displays a certain tendency toward *Z. c. chilensis* by deeper chestnut nuchal collar, somewhat more rufescent edging to secondaries and greater wing coverts, and the suggestion of a few blackish streaks above the superciliary region. It is very different from *Z. c. choraules*, of which specimens have been examined from Rio Colorado and Noetinger (Córdoba).

This is the first actual record of *Z. c. australis* from Chile proper,¹ although it has previously been found at various localities along the Straits of Magellan.

43. *Spinus crassirostris* (Landbeck)

Chrysomitris crassirostris Landbeck, Zool. Garten, 18, p. 254, 1877—"nahe der chilenischen Grenze, jenseits auf argentinischem Gebiete . . . in der hohen Cordillere, in der Nahe der Passe von Uspallata und Portillo," Prov. Mendoza.

Spinus ictericus magnirostris Barros (5), p. 187—El Peñon and Ojos de Agua, Rio Aconcagua, and Valle de los Leones, Prov. Aconcagua.

Range in Chile.—Once recorded by R. Barros from the Puna Zone of Aconcagua.

This siskin, though probably related to the *S. magellanicus* group, may be immediately recognized by larger size and the enormous bill, which is not only decidedly longer, but from two to three times as bulky as in the other representatives of the genus. The adult male, compared with *S. m. urubambensis*, is much duller both above and below; the lower abdomen is buffy, and the apical band to the greater upper wing coverts dull pyrite yellow instead of bright lemon yellow. The female, with which I am not acquainted, is stated by Todd² to be similar in coloration to that of "*S. capitalis*."

S. crassirostris was described by Landbeck from a single male in the National Museum at Santiago.³ The type had been taken beyond the Chilean frontier in the high Cordillera west of Mendoza,

¹Blaauw (Not. Leyd. Mus., 35, p. 29) refers birds seen at Casa Panguí, near Todos Santos Lake, Llanquihue, to "*Zonotrichia canicapilla*," on account of their "very light gray heads."

²Ann. Carnegie Mus., 17, p. 40, 1926.

³See Landbeck, Anal. Univ. Chile, 41, p. 102, 1872, where "*Chrysomitris*" [sic] *crassirostris* is, however, a pure nomen nudum. It was not characterized until several years later in the same author's paper, "Bemerkungen über die Singvogel Chiles," quoted above.

and remained unique until the species was redescribed by Dabbene¹ as *S. ictericus magnirostris* from specimens obtained by J. Mogensen in the Andes of Salta and Catamarca. Comparison of an authentic example from Lago Helado, Catamarca, for which I am indebted to Dr. Dabbene, with four topotypes from Puente del Inca, Mendoza, in the collection of the American Museum of Natural History, revealed their absolute identity.

Very little is known about the breeding range of this remarkable bird. It seems to inhabit the elevated Cordilleras of western Argentina from Salta south to Mendoza, at altitudes of 10,000 feet and upward. Its claim to be included in the Chilean fauna rests on R. Barros's record from the Cordillera of Aconcagua. Barros observed the birds in flocks in the upper Aconcagua Valley and in the Valle de los Leones in spring. They seemed to be on migration and disappeared on the approach of summer. We have no Chilean material, but one of Barros's specimens was identified by Dr. Dabbene.

44. *Spinus magellanicus urubambensis* Todd

Spinus magellanicus urubambensis Todd, Ann. Carnegie Mus., 17, p. 65, 1926—Cuzco, Peru (type), and Palca, Tacna.

Spinus capitalis (not of Cabanis) Todd, l. c., pp. 37, 39—part, Putre, Tacna.

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., ♀ ad., July 3, 7, 1924.

Additional specimens.—Tacna: Palca (alt. 3,000 meters), ♂ ad., Oct. 17, 1902. Otto Garlepp, No. 26 (Berlepsch Collection, Frankfurt Museum).

The Chilean specimens agree in size and coloration with the typical series from the Cuzco region. Mr. Todd, in his review of the genus *Spinus*, identified the pair from Putre as *S. capitalis*, but after careful comparison we have no hesitation whatever in referring them to *S. m. urubambensis*. The difference between the Putre male and the one from Palca in the Berlepsch Collection (identified by Todd as *S. m. urubambensis*) is merely seasonal, the former, taken in July, being in very abraded plumage, while the latter (October) has just finished its annual molt. Palca and Putre are in the same region, at very nearly the same altitude, and the occurrence of two closely allied forms in Tacna seems alto-

¹Physis, 4, No. 16, p. 105, May 15, 1918—Sierra del Cajon, Salta.

gether unlikely. Besides, the female from Putre is not separable from others obtained in the Cuzco region, so far as I can see.

Measurements compare as follows.—Peru, Cuzco: wing 74, 74, 75, 78, (female) 72; tail 48, 48, 48, 52, (female) 48.—Chile, Tacna: wing 73 (Putre), 75 (Palca), (female) 70; tail 48, 49, (female) 46 mm.

S. m. urubombensis ranges from southern Peru to northern Chile (Tacna). It is closely allied to *S. m. peruanus*¹ but is larger and slightly darker in coloration.

45. *Spinus barbatus* (Molina)

Fringilla barbata Molina, Saggio Stor. Nat. Chile, pp. 247, 345, 1782—Chile; Valparaiso suggested as type locality by Todd (Ann. Carnegie Mus., 17, p. 81, 1926);² Philippi (7), p. 27—Chile (crit.).

Carduelis stanleyi Audubon, Syn. Bds. N. America, p. 118, 1839—"Upper California," errore, probably Valparaiso, Chile (see Cassin, Proc. Ac. Nat. Sci. Phil., 1865, p. 90).

Chrysomitris marginalis Bonaparte, Consp. Av., 1, p. 517, 1850—Chile; Cassin, p. 181, pl. 17—Chile.

Chrysomitris campestris (not *Fringilla campestris* Spix) Darwin, p. 89—Valparaiso; Fraser (1), p. 112—Valparaiso; Des Murs (2), p. 352—Chile; Boeck, p. 504—Valdivia; Pelzeln (2), p. 92—Chile; Philippi (12), p. 263—Chile; Landbeck (9), p. 253—foothills of the Andes, also Valdivia (habits); Lataste (1), p. CXV—Ninhue, Maule; Waugh and Lataste (1), p. LXXXVII—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso, Quillota; Gigoux, p. 84—Caldera; Lataste (9), p. 170—Santa Teresa.

Crithagra flavospectularis Hartlaub, Naumannia, 3, p. 213, 1853—Valdivia.

Chrysomitris barbata Philippi (7), p. 28—Chile (syn., crit.); Sclater (2), 1867, pp. 322, 338—Chile; Sclater and Salvin, Ibis, 1870, p. 499—Ancud, Chiloé; E. Reed (2), p. 544—Cauquenes, Colchagua; Lane, p. 21—Corral, Coronel, Calle-Calle, and Maquegua; E. Reed (4), p. 200—Chile; Schalow (2), p. 722—Tumbes; Albert (1), 108, p. 198—Chile (monog.); Housse (1), p. 49—Isla La Mocha; Jaffuel and Pirion, p. 109—Marga-Marga Valley, Valparaiso; Bullock (3), p. 125—Cerro de Nahuelbuta, Malleco; idem (4), p. 189—Angol, Malleco.

Spinus barbata Allen, p. 83—Valparaiso.

Spinus barbatus Barros (4), p. 148—Ñilahue, Curicó; idem (5), p. 188—Los Andes and Rio Blanco, Aconcagua; Passler (3), p. 475—Coronel (habits); Housse (2), p. 147—San Bernardo; Wetmore (3), p. 434—Concon, Valparaiso; Barros (10), p. 362—Rio Blanco, Aconcagua.

Range in Chile.—From southern Atacama (Copiapó Valley) to the Straits of Magellan.

¹The record of *S. peruanus* from Tacna, Chile (see Todd, Ann. Carnegie Mus., 17, p. 48, 1926). is due to a pen-slip, as we are informed by the author.

²Molina's description is very poor, and appears to have been made from memory.

Material collected.—Atacama: Ramadilla (Copiapó Valley), two ♂♂ ad., one ♀ ad., Aug. 22, 23.—Coquimbo: Romero, ♂ ad., ♀ ad., July 11, 18.—Santiago: San José de Maipo (alt. 3,000 feet), ♂ ad., Dec. 18.—Malleco: Curacautin, ♂ ad., Jan. 9: Río Colorado ♂ ad., Feb. 4.—Chiloé Island: Quellon, two ♂♂ ad., ♀ ad., ♀ juv., Dec. 26, Jan. 3, 4.—Guaitecas Islands: Melinka, Ascension Island, three ♂♂ ad., one ♀ juv., Jan. 30, 31, Feb. 4.

Additional specimens.—Concepción: Talcaguano, ♂ ad., May 7, 1903. C. S. Reed (Field Museum).—Valdivia: Valdivia, three ♂♂ ad., two ♂♂ imm., one ♀ ad., Sept., 1896. A. von Lossberg (Berlepsch Collection).

The birds from Copiapó are duller in coloration, and the female (which is just completing its annual molt) is almost white beneath, with very little yellowish suffusion on foreneck and chest. This is, however, not likely to be a constant character, since a young female from Chiloé Island has the posterior under parts likewise largely whitish. Moreover, one of the males from Ramadilla is closely matched by another from Talcaguano, and the specimens from Coquimbo are exactly similar to those from more southern localities.

Adults taken from December to February are in more or less worn breeding plumage. Full-grown young birds were obtained from around Christmas up to early in February at Quellon and Melinka.

The "Jilguero" is common throughout the central and southern parts of Chile. It is reported to prefer the plains and foothills (precordillera) and, according to Barros, is never found above 5,000 feet. We are told by Gigoux that it is merely a winter visitor in the Copiapó Valley.

In habits, song, and nidification, we are informed by Landbeck, it closely resembles the European Siskin (*Spinus spinus*).

Outside of Chile, *S. barbatus* inhabits the eastern (Argentine) slopes of the Andes from the vicinity of Lake Nahuel Huapi¹ down to the Straits of Magellan and Tierra del Fuego. Specimens from Nahuel Huapi and western Chubut (Lago Blanco) agree with Chilean birds.

46. *Spinus atratus* (Lafresnaye and d'Orbigny)

Carduelis atratus Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 83, 1837—La Paz, Bolivia (type in Paris Museum examined); Philippi (8), Reise, p. 162.

¹According to Burmeister (Reise La Plata Staaten, 2, p. 490, 1861: *C. marginalis*), this bird ranges even to Mendoza, but this record may refer to some other species, as *S. barbatus* has never been found again so far north in Argentina.

Chrysomitris anthracina Philippi, Anal. Univ. Chile, 91, p. 675, 1895—"in Andibus provinciae San Fernando," errore; idem, Anal. Mus. Nac. Chile, 15, p. 56, pl. 17, fig. 1, 1902—"San Fernando."

Chrysomitris atrata Pelzeln (2), p. 92—"Chile"; Sclater (4), 1886, p. 397—Huasco and Sacaya, Tarapacá; Philippi, Ornith., 4, p. 159—"Colarados ii," probably near Rio Loa, Antofagasta; Sclater (6), 1891, p. 134—Sacaya and Lake of Huasco, Tarapacá; E. Reed (4), p. 200—Tarapacá; Lane, p. 22—Huasco and Sacaya, Tarapacá; Albert (1), 108, p. 196 (crit.).

Range in Chile.—Northern provinces of Antofagasta, Tarapacá, and doubtless also Tacna.

Material collected.—Antofagasta: Ojo de San Pedro (alt. 12,400 feet), ♂ ad., ♀ ad., caught in January, 1924.

Additional specimens.—Tarapacá: Cueva Negra, ♂ ad., Feb. 10, 1886. C. F. Rahmer; Huasco, ♂ ad., Jan. 18, 1889; Sacaya, ♂ ad., Jan. 22, 1890. A. A. Lane (British Museum).

Specimens from northern Chile agree with a series from Bolivia and northwestern Argentina. Peruvian birds do not appear to be separable either. The yellow abdominal area varies a good deal in extent, but this seems to be purely individual, so far as I can see.

In Chile, *S. atratus* is restricted to the three northernmost provinces, where it is found in the high cordilleras at elevations of 9,000 feet and upwards. Rahmer and Lane obtained it in the Andes of Tarapacá, and Sanborn bought two adults at Ojo de San Pedro, Antofagasta, which had been caught in the vicinity of that town a few months previously.

Philippi described a single black Goldfinch from San Fernando, Colchagua, under the specific name *anthracina*, basing the distinction on the absence of yellow in the abdominal line. Several specimens in the series examined very closely approach Philippi's figure, although none has the yellow below restricted to the under tail coverts. Albert, who had access to the type, considers it synonymous with *S. atratus*, and I am inclined to agree with his dictum, as birds collected by Weisshaupt at Mendoza, in the British Museum, are nowise different from those taken in northern Chile and Bolivia. If not a cage-bird, the type of *C. anthracina* must have been a straggler from Argentina, which would not be surprising, as we are informed by Landbeck (Zool. Garten, 18, p. 254, 1877) that *S. atratus* is found, though rarely, near the Chilean boundary line in the vicinity of the Uspallata and Portillo Passes, Mendoza.

47. *Spinus uropygialis* (Scater),⁻

Chrysomitris uropygialis Scater, Cat. Coll. Amer. Birds, p. 125, 1861—Chile (type in British Museum examined); Pelzein (2), p. 92—Chile; Scater (2), 1867, pp. 322, 338—Santiago, Chile (crit.); Philippi (12), p. 263—Cordilleras of central Chile; Landbeck (9), p. 254—in the high Cordillera at 5,000 to 10,000 feet; E. Reed (2), p. 544—Valle de los Cipreses, Colchagua; idem, Ibis, 1893, p. 596—Chile (seasonal occurrence); idem (4), p. 200—Chile; Albert (1), 108, p. 194—Chile (monog.); Barros (5), p. 183—Cordillera of Aconcagua; Housse (2), p. 147—San Bernardo, Santiago; Gigoux, p. 84—Caldera, Atacama.

Spinus uropygialis Barros (11), p. 315—Jurcal to Portillo, Santiago.

Chrysomitris magellanicus (not of Vieillot) Fraser (1), p. 113—valleys of the Andes on the east and west side (two of Bridges's specimens examined in British Museum).

Chrysomitris xanthomelana (Reichenbach MS.) Bibra, p. 130—Cordillera [of Santiago] (nom. nudum).

Chrysomitris atratus Cassin, p. 181—"interior of Chile" (see Cassin, Proc. Ac. Nat. Sci. Phila., 1865, p. 91).

Chrysomitris atrata Jaffuel and Pirion, p. 109—cerros of the Marga-Marga Valley, Valparaíso.

Range in Chile.—Central Chile, from Atacama to Colchagua.

Material collected.—Atacama: Caldera, ♂ ad., Oct. 23, 1924.

E. Gigoux.—Santiago: San José de Maipo (alt. 3,000 feet), ♂ ad., Dec. 18.

Additional specimens.—Atacama: Huasco Alto, ♂ ad., no date.

W. Goodfellow.—Santiago: Prov. Santiago, ♂ ad., no date. F. Leybold.—"Chile:" three ♂ ad., including the type (all in the British Museum).

Our specimens have been compared and found identical with the type in the British Museum. The female differs only by broader greenish edges to the dorsal feathers, duller, more brownish black upper parts and throat, and duller yellow of the belly.

This siskin, the "Jilguero de la cordillera" of the Chileans, is confined to the Cordilleras of the central provinces, from Atacama to Colchagua. During the breeding period it inhabits the mountain valleys between 5,000 and 10,000 feet (Landbeck). E. C. Reed found it common in the Andes of Colchagua, particularly in the Valle de los Cipreses, from an elevation of 1,800 meters up to the snow line. In the province of Aconcagua it is found chiefly between

¹[*Chrysomitris icteroides* (Schimper MS.) Bonaparte (Compt. Rend. Ac. Sci. Paris, 37, p. 915, 1853; Not. Orn. Coll. Delattre, p. 15, 1854—Chile) possibly refers to this species. However, the diagnosis "une espèce à petit bec aiguë," together with the suggestion of its affinity to *S. atratus*, is not sufficient to identify the name. Unfortunately, the type cannot be found in the Strasbourg Museum.

1,700 and 2,000 meters, and disappears after the nesting season (Barros). On migration it drops to lower altitudes, and specimens have been taken or observed at San Bernardo (alt. about 1,700 feet), San José de Maipo (alt. 3,000 feet), and even near sea level at Tofo, Coquimbo, and Caldera.

There is, however, not the least evidence to support E. C. Reed's surmise (Anal. Univ. Chile, 93, p. 200, 1896) that *S. uropygialis* is a resident in Tarapacá, where its place is obviously taken by *S. atratus*.

S. uropygialis is so closely related to the Black Siskin that one is tempted to associate it subspecifically. The only differences are its yellow rump, breast, and abdomen, and the yellowish oil-green margins to the back and upper tail coverts. The importance of at least one of these characters is lessened by the occasional presence of yellowish edges to the rump in certain individuals of *S. atratus*. Still I hesitate to propose any change in current nomenclature in view of the fact that P. Gosse,¹ while a member of Fitz Gerald's Aconcagua Expedition, secured five typical specimens of *S. uropygialis* in December, 1896, at Puente del Inca and Punta de las Vacas (alt. 7,546 to 9,170 feet), in the Mendoza region, which I am quite unable to distinguish from Chilean birds. Weisshaupt, on the other hand, took equally typical examples of *S. atratus*, in February, 1871, near Mendoza, two of which I have examined in the British Museum. Burmeister,² too, records *S. atratus* from the Sierra de Uspallata, and Landbeck,³ who was well acquainted with *S. uropygialis*, states that *S. atratus* is sometimes found near the passes of Uspallata and Portillo. It is, of course, quite possible that one of the two species may be merely a migratory visitor to the Mendoza region, but until this point has been satisfactorily cleared up, it seems preferable to regard them provisionally as specifically distinct.

43. *Sicalis luteola*⁴ *luteiventris* (Meyen)

Fringilla luteiventris Meyen, Nov. Act. Acad. Caes. Leop.-Carol., 16, Suppl., p. 87, pl. 12, fig. 3, 1834—near Api, Alto de Toledo, southern Peru (type in Berlin Museum examined); Kittlitz (3), p. 172—Valley of Quillota.

¹*Melanomitrus uropygialis* Gosse in Fitz Gerald, The Highest Andes, p. 347, 1899.

²Reise La Plata St., 2, p. 490, 1861.—The female appears to belong to some other species.

³Zool. Garten, 18, p. 254, 1877.

⁴*Emberiza luteola* Sparrman (Mus. Carlson., fasc. 4, pl. 93, 1789—locality unknown) is an earlier name for *Sycalis minor* Cabanis (in Schomburgk, Reisen Brit. Guiana, 3, p. 679, "1848"—British Guiana), as has been pointed out long

Fringilla arvensis Kittlitz, Mém. Acad. Sci. St. Pétersb., sav. étr., 2, p. 470, pl. 4, August, 1835—Valley of Quillota, Chile (type in Leningrad Museum; cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 19, 1921).

Crithagra (?) *brevirostris* Darwin, p. 88—part, Valparaíso; Fraser (1), p. 112—Chile; Yarell, p. 53 (egg).

Grithagra brevirostris Des Murs (2), p. 361—Valparaíso (ex Darwin); Germain, p. 312—Santiago (nesting habits); Philippi (8), Reise, p. 163—Quebrada de La Encantada, Atacama; idem (12), p. 266—Chile in general; Landbeck (9), p. 258 (habits); Lataste (1), p. CXV—Ninhue, Maule; idem (4), p. XXXIV—Caillihue, Curicó; Waugh and Lataste (1), p. LXXXVII—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso, Quillota.

Crithagra luteiventris Cassin, p. 181—"in the Andes" [of Chile]; Pelzeln (2), p. 95—Chile.

Sycalis luteoventris Bibra, p. 130—Cordillera of Santiago.

Sycalis arvensis Sclater (2), 1867, pp. 323, 338—Chile; E. Reed (2), p. 545—Cauquenes, Colchagua; idem (4), p. 200—Chile; Lane, p. 24—Hacienda Mansel, Rio Bueno, Puerto Montt, and Laguna Llanquihue (habits); Schalow (2), p. 722—Tumbes; Albert (1), 108, p. 203—Chile (monog.); Passler (2), p. 29—Coronel (nest and eggs); Housse (2), p. 147—San Bernardo; idem (3), p. 226—Isla La Mocha; Gigoux, p. 84—Caldera, Atacama; Jaffuel and Pirion, p. 110—Marga-Marga, Valparaíso; Bullock (4), p. 189—Angol, Malleco.

Sycalis luteola (not *Emberiza luteola* Sparrman) Salvin (2), p. 422—Coquimbo and Talcaguano.

Sicalis arvensis arvensis Barros (4), p. 148—Nilahue, Curicó; idem (5), p. 188—Precordillera of Aconcagua; idem (10), p. 362—Aconcagua.

Sycalis l. luteiventris Passler (3), p. 476—Coronel (nesting habits).

Range in Chile.—From Atacama to Chiloé and the Guaitecas Islands.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., Aug. 23; ♂ imm., Caldera, April 17. F. Gigoux.—Concepción: Hacienda Gualpencillo, two ♂♂ ad., March 28, April 3.—Malleco: Curacautin, ♂ ad., ♀ ad., Jan. 8, 11.—Valdivia: Máfil, two ♂♂ ad., one ♀ ad., one ♂ juv., Feb. 14–27.—Chiloé Island: Quellon, five ♂♂ ad., two ♂♂ juv., Dec. 26 Jan. 5.—Guaitecas Islands: La Senda, Guaiteca Island, ♂ ad., Feb. 3.

Additional specimens.—Aconcagua: Los Andes (alt. 3,000 feet), ♂ ad., Aug. 20, 1924. R. Barros (Field Museum).—Concepción: Tumbes, ♀ ad., June, 1894. L. Plate (Berlin Museum).—Valdivia:

ago by Sundevall (Vetenskaps Akad. Handl., 2, No. 3, p. 14, 1857). Professor E. Lonnberg, to whom specimens of the Guianan race and allied species were forwarded, on my request kindly re-examined the types in the Stockholm Museum and, under date of April 5, 1922, writes to the effect that Sundevall's identification is perfectly correct. The type is slightly smaller (wing 60; tail 40 mm.) than the average of *S. a. minor* auct., but its bill is of the same size and shape. *S. luteola* thus becomes the specific name for the striped-backed *Sicalis* of South America.

Desagüe, near Puerto Montt, ♂ ad., Aug. 21, 1895. G. Hopke (Berlepsch Collection); Valdivia, two ♀ ♀ ad., Oct. 2, 1894. A. von Lossberg (Berlepsch Collection).—"Chile" (unspecified): six ♂ ♂ ad., two ♀ ♀ ad.

The name *F. luteiventris*, misapplied by Sharpe (Cat. B. Brit. Mus., 12, p. 383, 1888) to the *Sicalis* form of the highlands of Colombia and Ecuador, has been shown by Reichenow¹ to refer to the larger southern race universally known as *S. a. arvensis*. Careful comparison of the type from the Alto de Toledo (an elevated mountain range along the boundary line of the departments of Moquegua and Puno) and a series of adults from Puno City and the upper Urubamba Valley in southern Peru with twenty-five Chilean specimens fails to reveal any differences either in size² or in color. The under parts in the Peruvian birds are by no means brighter or deeper yellow, as has been claimed by Chapman,³ nor can I discern any constant divergency in the coloring or streaking of the upper surface. Under these circumstances I have no alternative but to follow Reichenow in uniting *luteiventris* and *arvensis*, though I do so reluctantly as there exists an apparent gap in the range, no *Sicalis* of this type having been recorded from the northern section of Chile comprised between the valley of Copiapó and the Tacna frontier.

Birds from western and northern Peru (Lima; Chinchao, Huánuco; Santiago, Cajamarca, Cajabamba, Chusgon, Huamachuco) merely differ by smaller size and by having frequently, though not always, a more or less distinct whitish spot on the inner web of the outermost rectrix. Their proper name is *S. luteola raimondii* Taczanowski.⁴

This whitish marking is of quite exceptional occurrence in *S. luteiventris*, for out of more than forty specimens from Chile and southern Peru I find it only on two adult males from Puno City.

S. l. luteiventris is widely distributed in Chile, particularly in the central and southern provinces. It is chiefly found in the lowlands and foothills, and is hardly ever seen above 5,000 feet. According to Landbeck and Barros, it is migratory to some extent, and after the breeding season congregates in large flocks.

¹Journ. Orn., 65, p. 513, 1917.

²Sixteen adult males measure on the wing from 74 to 78; one (the type) from Alto de Toledo, 76; five from Puno City, 74-78; one from Urubamba, 75 mm.

³Amer. Mus. Novit., 143, pp. 13-14, 1924.

⁴*Sycalis raimondii* (Jelski MS.) Taczanowski, P. Z. S. Lond., p. 133, 1874—vicinity of Lima.

In southern Peru, on the other hand, this bird lives at great altitudes, between 10,000 and 13,000 feet.

49. *Sicalis*¹ *uropygialis uropygialis* (Lafresnaye and d'Orbigny)

Emberiza uropygialis Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 75, 1837—"in summis Andibus, Bolivia" (type—from an unspecified locality in Bolivia—examined in Paris Museum).

Sycalis uropygialis Sclater (4), 1886, p. 397--Huasco and Sitani, Tarapacá.

Pseudochloris uropygialis Lane, p. 23—Sacaya and Cancosa, Tarapacá; E. Reed (4), p. 200—Tarapacá; Albert (1), 108, p. 228—Tarapacá and "Arica" (monog.).

Range in Chile.—Northern provinces of Antofagasta and Tarapacá.

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), ♂ ad., Sept. 18.—Tarapacá: Chintaguai, Quebrada de Quisma (alt. 4,000 feet), ♂ imm., May 24.

Additional specimens.—Tarapacá: Huasco, ♂ ad., Feb. 15, 1886; Sitani, ♂ ad., ♀ ad., Jan. 17, 1886. C. F. Rahmer (British Museum).

The intensity of the gray on the upper parts in this species is subject to much individual variation, while in worn plumage the dusky shaft-streaks of the dorsal feathers are much more prominent than in freshly molted birds. Comparison of a fair series from Bolivia, northern Chile, and northwestern Argentine (Cerro Muñoz, Tucumán; Santa Catalina, Jujuy) fails to reveal any racial distinction. The sides of the head are as a rule plain ash gray, as claimed by Chapman, though our bird from San Pedro and the type of *Crithagra pentlandi* Bonaparte² have the cheeks and anterior portion of the auriculars decidedly olive yellow, just a little duller than the crown, thus closely resembling *S. u. connectens* (Chapman).³ Specimens from Puno City and Lake Titicaca (Chililaya), by reason of their gray sides of the head, seem more properly referable to typical *uropygialis* than to *connectens*, which I would restrict to the upper Urubamba Valley. *S. u. sharpei* (Berl. & Stolz.), from Junín and Huánuco, differ by entirely olive yellow sides of the head and by lacking the pale gray area on the flanks.

S. u. uropygialis is found in the valleys of the cordilleras and on the surrounding slopes up to 13,000 feet. According to Lane, they

¹It seems to me that neither *Pseudochloris* Sharpe nor *Pseudosicalis* Chubb are properly separable from *Sicalis*.

²Consp. Gen. Av., 1, p. 521, 1850—locality unknown, but presumably Bolivia.

³*Pseudochloris uropygialis connectens* Chapman, Bull. Amer. Mus. Nat. Hist., 41, p. 329, 1919—La Raya, head of Urubamba Valley, Dept. Puno, Peru.

generally resort to altitudes of 8,000 feet and upwards. Sanborn, however, secured a specimen in juvenile molt as low as 4,000 feet in the foothills east of Pica. Birds taken by Rahmer in January and February in the Cordillera of Tarapacá are in worn breeding plumage.

50. *Sicalis auriventris* Philippi and Landbeck

Sycalis auriventris Philippi and Landbeck, Arch. Naturg., 30, (1), p. 49, 1864—Cordilleras of the province of Santiago; Landbeck (9), p. 255—Prov. Santiago (habita).

Sycalis aureiventris Landbeck, Anal. Univ. Chile, 24, p. 342, 1864—same locality; Selater (2), 1867, pp. 323, 338 (crit.); idem, Ibis, 1872, p. 47, pl. 3—Cordilleras of Santiago; Philippi (12), p. 264—Cordilleras of central provinces; E. Reed (2), p. 545—Valle de los Cipreses and Valle del Yeso, Colchagua; Philippi (24), p. 57, pl. 19, fig. 1—Cordilleras of central provinces.

Pseudochloris aureiventris E. Reed (4), p. 200—Chile; Albert (1), 108, p. 226—Cordilleras of Chile (monog.); Barros (5), p. 188—Cordillera of Aconcagua.

Emberiza luteocephala (not of Lafresnaye and d'Orbigny) Bridges, p. 113—the elevated valleys of the Andes [of Colchagua], east and west sides.

Range in Chile.—High Cordilleras from Antofagasta to Colchagua.

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), ♂ ad., Oct. 5.—Coquimbo: Baños del Toro (alt. 10,600 feet), three ♂♂ ad., one ♀ ad., Nov. 8–18.—Santiago: San José de Maipo (alt. 3,000 feet), ♂ imm., Dec. 18.

Additional specimens.—Aconcagua: Cajon de Castro (alt. 3,500 meters), ♀ juv., Feb. 24, 1926. R. Barros (Field Museum).—Santiago: Cordilleras of Santiago, two ♂♂ ad., two ♀♀ ad., one ♀ juv. L. Landbeck (British Museum).—"Chile:" ♂ ad., ♀ ad. Hénault (Paris Museum); ♂ ad. E. C. Reed (Berlepsch Collection).

Wing 95–98, (female) 93–95; tail 58–64, (female) 57–61; bill 11–12½ mm.

Aside from certain seasonal differences due to the freshness of the plumage, the Antofagasta bird agrees with adult males from more southern localities. The Baños del Toro specimens are in very worn condition, and were doubtless breeding, whereas the single male taken at San José de Maipo shows traces of immaturity.

S. auriventris is reported to be an inhabitant of the high Cordilleras, from about 6,000 feet up to the snow line. It was discovered by Landbeck in February, 1861, near the Laguna de los Piuquenes, where the birds were nesting, and was afterwards found at various other localities (Yerba Loca, las Araucas, Valle Larga, Valle Ploma,

etc.) in the Cordillera of Santiago. E. Reed lists it as a summer visitor for the mountain valleys of Colchagua, while Barros found it breeding in the Aconcagua Valley from 6,000 feet upwards. During migration it is met with at lower altitudes, but at the end of April or early in May it disappears completely from the Aconcagua Valley, and does not return to its nesting grounds until October. The taking of a breeding series at Baños del Toro, Coquimbo, by Mr. Sanborn considerably extends its range to the north. The single specimen secured near San Pedro, Antofagasta, which is in fairly fresh plumage, may have been a migrant from the south, however.

Outside of Chile, *S. auriventris* is known to occur on the Argentine slope of the Andes from west of Mendoza¹ to the region south of Lake Nahuel Huapi.² Three adult males (in worn breeding plumage) from Puente del Inca, Mendoza, collected in December, 1896, by the Fitz Gerald Aconcagua Expedition, differ nowise from Chilean examples, their seemingly more "saturated" coloration being merely due to their greasy condition. *P. a. incae*, consequently, sinks as a pure synonym of *S. auriventris*.

S. auriventris is a very distinct species, perhaps most nearly related to the Bolivian *S. luteocephala* (Laf. and d'Orb.), and, in addition to color characters, is immediately recognizable by its large size.

51. *Sicalis olivascens chloris* Tschudi

Sycalis chloris (Cabanis MS.) Tschudi, Faun. Peru., Aves, p. 216, 1846—Peru (the type examined in the Berlin Museum was obtained by B. Philippi and is labeled "Cinchon forests of Peru").

Sycalis auriventris (not of Philippi and Landbeck) Sclater (4), 1886, p. 397—Chumisa, Tarapacá (spec. examined); Gigoux, p. 84—Caldern, Atacama.

Pseudochloris auriventris Sclater (6), 1891, p. 133—Sacaya, Tarapacá; Lane, p. 23—Andean Valleys of Tarapacá.

Pseudochloris chloris Albert (1), 108, p. 225—Tarapacá and "Arica" (monog.).

Range in Chile.—Northern provinces, from Atacama to Tacna.

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), four ♂♂ ad., three ♀♀ ad., April 30, Oct. 3–5.—

¹*Sycalis lutea* (not *Emberiza lutea* Lafresnaye and d'Orbigny) Gosse in Fitz Gerald, The Highest Andes, p. 352, 1899—Puente del Inca.—*Pseudochloris auriventris incae* Chubb, Bull. Brit. Orn. Cl., 39, p. 71, 1919—Puente del Inca, Aconcagua Valley (types in British Museum examined).

²*Pseudosicalis auriventris* Peters, Bull. Mus. Comp. Zool., 65, p. 331, 1923—Huanuluan, western Rio Negro.

Atacama: Domeyko (63 km. south of Vallenar), three ♂♂ imm., two ♀♀ ad., Aug. 11-16.

Additional specimens.—Tarapacá: Chumisa, ♂ ad., Jan. 2, 1886. C. F. Rahmer (British Museum).

Wing 83-86, (female) 80-85; tail 52-56, (female) 51-55; bill 10-11.

This series has been carefully compared with the type courteously forwarded by Dr. Stresemann and with specimens from the western Andes of Peru both in Field Museum and in the British Museum. The type, an adult male in fresh plumage (Berlin Museum, No. 6,163), agrees perfectly in size and coloration with birds from the Andes above Lima (Matucana and San Mateo), and was doubtless secured somewhere in the Temperate Zone of the Western Cordillera.¹ Birds from southern Ayacucho (Pausa) and Arequipa as well as those from northern Chile appear to be inseparable, although their bills are on average, though by no means constantly, slightly smaller. The Chumisa specimen, identified by the late P. L. Sclater as *S. auriventris*, is quite different from that species and resembles in every particular adult males from Antofagasta.

S. o. chloris would thus seem to range throughout the temperate region of the Western Andes from above Lima² south to Antofagasta.³ At Domeyko, Atacama, Mr. Sanborn tells me, these finches were congregated in flocks, and appeared to be on migration.

*S. o. chloris*⁴ belongs to a section of the genus *Sicalis* that spreads in a number of closely allied forms over an extensive area of the

¹The collector Bernhard Philippi (a brother of the Chilean naturalist) is known to have traveled from Lima to Maraynioc and thence down to the tropical forests. Some of his specimens in the Berlin Museum are definitely marked "Maraymoch."

²Farther north in the Dept. Libertad, at Otuzco, Chusgon, and Huamachuco, it is replaced by a smaller form with thicker, stouter bill, *S. o. salvini* (Chubb). Wing (six specimens) 73-76; tail 47-53. It was described as *Pseudochloris salvini* (Bull. Brit. Orn. Cl., 39, p. 70, 1919).

³The specimen recorded as *Pseudochloris lutea* by Allen (Bull. Amer. Mus. N. H., 2, p. 83, 1889) proves, on re-examination, to pertain to *S. o. olivascens*. It is an adult male in good plumage, and compares well with Bolivian skins. It certainly never came from "Valparaiso," but was most probably obtained somewhere near La Paz, Bolivia.

⁴*S. o. chloris* has frequently been confused with *S. lutea* (Lafr. & d'Orb.), although the two birds are altogether different, as correctly pointed out by Berlepsch and Stolzmann (Ornis, 13, Part 2, p. 68, Sept., 1906). *S. lutea*, which is well-figured in Ibis, 1872, pl. 2, fig. 2, from a specimen obtained by H. Whitely, at Tinta, Peru, on June 23, 1868, may be readily distinguished from *S. o. chloris* and *S. o. olivascens* by bright olive yellow upper parts (without traces of dusky streaks), passing almost into canary yellow on the rump; bright yellow sides of the head and ventral surface, without any greenish tinge on the flanks; bright yellow margins

Andes from Peru south to Patagonia. With the comparatively limited material at present available it is hardly possible to more than outline their approximate ranges.

S. o. olivascens (Lafr. & d'Orb.)¹ was originally based on a couple of adults from La Paz, Bolivia, of which the male has apparently been lost. There is, however, a series of adult birds from that locality in the Berlepsch Collection, and as the females agree with the female type in the Paris Museum, the proper pertinence of the name *olivascens* is established beyond doubt. This form is exceedingly similar to *S. o. chloris*, from western Peru and northern Chile, but has a slightly longer tail (56-62; female 53-58) and a rather slenderer bill, while the under parts are of a somewhat brighter yellow in the male sex. Birds from Tapacari, Cochabamba, in the British Museum and others in the Berlepsch Collection from the Cuzco region (Lucre; Urubamba) are similar to the series from La Paz.

S. o. berlepschi (Ménégaux)² from Pulacayo, Lake Poopó, Oruro, the types of which I have closely compared in the Paris Museum, is of doubtful standing. In coloration, the male does not differ from *S. o. chloris*, but it is even larger than *S. o. olivascens*, the wing measuring fully 90 (against 80-87, in twelve males from La Paz, Tapacari, and Cuzco), while the tail (60 mm.), in contradiction to Ménégaux' statement, is not shorter. An adult male from Oruro (alt. 3,700 meters), August 15, 1901, P. O. Simons coll., in the British Museum, even exceeds these measurements (wing 92; tail 63), but on the lower parts it is brighter yellowish, more like *S. o. olivascens*,

to wing and tail feathers; shorter, proportionately deeper bill with more convex culmen, and blackish (instead of pale brown) legs. Of this species I have examined an adult male from Oruro and a young bird from Santiago, Bolivia, collected by d'Orbigny (the types), and an adult male from Rinconada (road from Arequipa to Cuzco), Peru, coll. Castelnau, at Paris, an adult male from Sajama (alt. 4,000 meters), Bolivia, June 28, 1897, G. Garlepp, in the Berlepsch Collection; an adult male and an unsexed young bird taken by H. Whitely on June 23, 1868, at Tinta, Urubamba, Peru; a young male from Colea, Calalla River (alt. 3,500 meters), Arequipa, June 19, 1900, coll. P. O. Simons; and finally an adult male from an unspecified locality in Bolivia, coll. Bridges, the last four in the British Museum.

What Sharpe (Cat. B. Brit. Mus., 12, p. 775, 1888) considered as the "young male" of his *P. lutea* (spec. e, f, g, h) proves to be *S. o. olivascens*, but he also included an example (spec. a) of *S. o. mendozæ* under the same heading.

Chapman (Bull. U. S. Nat. Mus., 117, p. 111, 1921) seems to have made the same mistake, and I have little doubt that the Tirapata specimens commented on under *P. c. chloris* are really referable to *S. lutea*.

¹*Emberiza olivascens* Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 75, 1837—La Paz, Bolivia (female type in Paris Museum examined).

²*Pseudochloris olivascens berlepschi* Ménégaux, Bull. Soc. Philom. Paris, (10), 1, p. 212, 1909—Pulacayo, Lake Poopó, Oruro, Bolivia (types in Paris Museum examined).

although one from San Mateo, Lima (*S. o. chloris*), runs very close. A single female (from Pulacayo) can hardly be told from *S. o. olivascens*. Until a satisfactory series shall have become available, it is impossible to say whether *S. o. berlepschi* is really separable from *S. o. olivascens*, although the few specimens at hand point to the possible existence of a larger form on the Oruro plateau.

In northwestern Argentina (provinces of Jujuy, Tucumán, Los Andes, and Catamarca) another nearly allied race, *S. o. sordida* (Chapman)¹ is found. It is exceedingly close to *S. o. olivascens*, but perhaps separable in the male sex by somewhat duller upper and under parts with more olivaceous shading on the throat, chest, and sides. Dimensions about the same: wing 83–87, (female) 81–86; tail 54–60, (female) 52–56. Direct comparison of the types with Jujuy specimens proves *Pseudochloris stewarti* Chubb² to be an absolute synonym of *S. o. sordida*. Specimens have been examined from Jujuy (Tilcara 3, Maimara 2, Angusta Perchela 1), Tucumán (Lara 2, Cerro Muñoz 1), Catamarca (Gualfin 1, Corral Quemado 1), and Los Andes (Antofagasta 2).

S. o. mendozae (Sharpe),³ from the Andes west of Mendoza,⁴ is very similar to *S. o. sordida*, but much smaller, while the males appear to be of a somewhat brighter, more yellowish coloration. Six specimens measure as follows: wing 76–78; tail 51–53; bill 10 mm.

The last member of this group is *S. lebruni* (Oustalet),⁵ which is again larger, being of about the same size as *S. o. sordida*, but differs from its allies by grayish (instead of olive yellow) outer margins to the remiges, nearly whitish tail edging, grayish flanks, largely white-tipped under tail coverts, etc. It ranges from western Rio Negro throughout Patagonia to the Gobernación de Santa Cruz. In addition to the type, we have examined specimens from Huanuluan (two), Maquinchao (two), and Valle del Lago Blanco, Chubut (six).

¹*Pseudochloris olivascens sordida* Chapman, Bull. Amer. Mus. N. H., 41, p. 330, 1919 - Tilcara, Jujuy.

²El Hornero, 3, No. 1, pp. 34, 35, pl. 1, figs. 1, 2, Feb., 1923—Gualfin, Catamarca.

³*Pseudochloris mendozae* Sharpe, Cat. B. Brit. Mus., 12, p. 778, 1888—Mendoza.

⁴*Sicalis lutea* Wetmore (Bull. U. S. Nat. Mus., 133, p. 403, 1926), from near Potrerillos, Mendoza, likewise refers to *S. o. mendozae*, as I am informed by the author.

⁵*Pseudochloris lebruni* Oustalet, Miss. Sci. Cap Horn, 6, p. B 98, 1891--Misioneros, Patagonia (type in Paris Museum examined).

52. *Saltator aurantirostris albociliaris* (Philippi and Landbeck)

Pitylus albociliaris Philippi and Landbeck, Anal. Univ. Chile, 19, p. 611, 1861—Socoroma (alt. 5,000 feet), "Peru" = Prov. Tacna; idem, Arch. Naturg., 29, (1), p. 122, 1863 Socoroma.

Range in Chile.—Extreme north, in province of Tacna.

Unfortunately this species was not met with by Mr. Sanborn, and its claim to be included in the Chilean fauna rests exclusively on the taking by Froben of an adult male in July, 1853, at Socoroma, in the Cordillera of Tacna, at an elevation of 5,000 feet.

The description seems to correspond to birds from southern Peru and, pending the receipt of topotypical material, we follow Dr. Chapman¹ in accepting the name *albociliaris* for the form later described as *S. laticlavus* by Sclater and Salvin.²

53. *Passer domesticus domesticus* (Linnaeus)

Fringilla domestica Linnaeus, Syst. Nat., 10th ed., 1, p. 183, 1758—Europe; restricted type locality Sweden.

Passer domesticus Barros (2), Anal. Zool. Aplic., 4, pp. 10–15, 1917; Schneider, l. c., 7, p. 5, 1920—Chiguayante, Concepción; Housse (2), p. 147—San Bernardo; Gigoux, p. 85—Caldera; Jaffuel and Pirion, p. 110—Marga-Marga Valley, Valparaíso; Bullock (4), p. 192—Angol, Malleco.

Passer domesticus domesticus Barros (5), p. 189—Aconcagua; idem (8), p. 140—Rio Blanco, Aconcagua; idem (10), p. 363—Aconcagua.

Range in Chile.—From Antofagasta to Malleco.

Material collected. Atacama: Caldera, two ♂♂ ad., two ♀♀ ad., April 16, 1924; Nov. 5, Dec. 5, 1923. E. Gigoux.

From the investigation of R. Barros (2) it results that the English Sparrow was first introduced into Chile by Alberto Cousiño in 1904. In 1917, Barros found it fairly common at Santiago and vicinity, and met with it also at Cutemo, on the coast of Curicó. Schneider records a specimen taken in the spring of 1918 on the outskirts of Chiguayante, Concepción. Barros (5), in 1921, lists it as a resident for Los Andes and Rio Blanco, Aconcagua, where it had been introduced several years previously by a Frenchman.

Since then, the English Sparrow has conquered additional territory in Chile. Mr. Gigoux sent us specimens from Caldera, Atacama,

¹Amer. Mus. Novit., 261, pp. 13, 15, 19, 1927.

²The specimen from "near Valparaíso, June, 1885" recorded by Allen (p. 82) was, of course, incorrectly labeled, and probably originated from Bolivia.

where it made its first appearance in September, 1919, and has since spread over the greater part of the Copiapó Valley. The members of the Museum expedition noticed it even at the port of Antofagasta, in the province of the same name.

Housse mentions the species as being common in the vicinity of San Bernardo since 1922. Jaffuel and Pirion, in 1926, noticed it for the first time in the Marga-Marga Valley, Valparaíso, and Bullock gives January 5, 1929, as the date when the first specimens were seen at Angol, Malleco.

54. *Thraupis bonariensis darwinii* (Bonaparte)

Tanagra darwinii Bonaparte, P. Z. S. Lond., 5, "1837," p. 121, June, 1838—"Chile."¹

Tanagra striata (not of Gmelin) Philippi, Ornith., 4, p. 159—Sibaya, Tarapacá.

Range in Chile.—Extreme north, in provinces of Tacna and Tarapacá.

Material collected.—Tacna: Putre (alt. 11,600 feet), one ♂ ad., three ♀ ♀ ad., July 4-7.

The specimens agree with others from western Peru. This tanager has not previously been mentioned from Chile, though Philippi's record of "*T. striata*" from Sibaya, Tarapacá, doubtless refers to the present species.

T. bonariensis and *T. darwinii* are clearly conspecific. Females are hardly distinguishable, while the male of the western form merely differs by greenish (instead of black) mantle and bright yellow (instead of orange) rump and lower parts. Geographically they replace each other, *T. bonariensis* ranging from eastern Bolivia (Cochabamba)² through the northern half of Argentina east into Uruguay and Rio Grande do Sul, whereas *T. darwinii*³ inhabits the Andean regions from Ecuador south to western Bolivia (La Paz) and the extreme north of Chile.

¹Bonaparte's statement that the type "in the British Museum" was "brought to this country by the expedition under Capt. Fitzroy" appears to be incorrect. No specimen of this bird was collected by Captain Fitzroy, the commander of the "Beagle," of which Darwin was the naturalist; but in the Cat. B. Brit. Mus., 11, p. 164, male and female of *T. bonariensis* are listed from "Maldonado, Uruguay, Burnett and Fitzroy." Yet, Bonaparte's description corresponds so well to the characters of the western form that there is hardly any doubt as to what he had in mind.

²I am now inclined to refer the single female (not in very good condition) from Palca, Ayapuya, mentioned by me (Nov. Zool., 30, p. 238, 1923) to *T. b. bonariensis* rather than *T. b. darwinii*.

³*T. darwini laeta* Berl. & Stolz. seems to be inseparable.

[*Tangara chilensis* (Vigors),¹ originally credited to "Chile," is known to be confined to the Amazonian slope of the Andes from Colombia to Bolivia.

Cacicus (now *Archiplanus*) *albirostris* Vieillot—included by Gay (p. 344) among the birds of Chile—is restricted to the central tableland of Brazil and the adjacent districts of Bolivia, Argentina, and Paraguay.]

55. *Molothrus bonariensis bonariensis* (Gmelin)

Tanagra bonariensis Gmelin, Syst. Nat., 1, (2), p. 898, 1789—based on "Tangavio" Buffon and Daubenton, Pl. Enl. 710, Buenos Aires.

Molothrus bonariensis Des Murs (2), p. 347—"Chile"; E. Reed (4), p. 200—Chile; Albert (1), 101, p. 923—Chile (monog.); Rahmer, Bol. Mus. Nac. Chile, 4, p. 207—Machali (Rancagua), O'Higgins, and Baños de Cauquenes, Colchagua; C. Reed, Rev. Chil. Hist. Nat., 17, p. 173—Coronel, Concepción, and Limache, Valparaíso; Passler (3), p. 479—Coronel (eggs descr.); Housse (2), p. 148—San Bernardo, Santiago; Jaffuel and Pirion, p. 109—Marga-Marga Valley, Valparaíso; Bullock (4), p. 188—Angol, Malleco.

Molobrus bonariensis Philippi (12), p. 262—prov. of Santiago; Landbeck (9), p. 251—vicinity of Santiago.

Molothrus bonariensis bonariensis Barros (5), p. 191—Los Andes (Aconcagua), Talagante (Santiago), Rauco, Cutemo, and Nilahue (Curicó); idem (8), p. 142—Nilahue, Curicó; idem (10), p. 364—Los Andes and Rio Blanco, Aconcagua.

Range in Chile.—Central provinces, from Coquimbo to Malleco.

Material collected.—Coquimbo: Romero, ♂ (first annual), July 31, 1923.—Valparaíso: Palmilla, La Cruz (alt. 150 meters), ♂ (first annual), ♀ ad., Nov. 17, 1924. J. A. Wolfsohn. Santiago: Lampa, ♀ ad., June 1, 1924. C. S. Reed; San José de Maipo (alt. 3,000 feet), ♂ juv., Dec. 19, 1923. Colchagua: Pelequen, two ♂♂ (first annual), ♀ ad., July 12, 1923. C. S. Reed.

The Chilean males, most of them unfortunately in first annual dress, are decidedly less purplish on head and hindneck than the few Argentine birds in corresponding plumage available for comparison. One would be tempted to attribute this difference to geographic variation, were it not an established fact that the Cowbird is a comparatively recent immigrant to Chile.

Philippi, writing in 1868, knew of only two specimens, which had been found dead in the vicinity of Santiago. Landbeck, in 1877, states that it is of very rare occurrence in Chile, while Edwyn Reed

¹*Aglaia Chilensis* Vigors, Proc. Comm. Sci. Corr. Zool. Soc. Lond., 2, p. 3, 1832.

(2) does not include it in his avifauna of the Hacienda de Cauquenes published in the same year, nor did Lataste, on his numerous excursions from 1889-95, ever meet with this bird. In 1905, C. Reed (3) took a single female on the hills of Coronel, near Concepción. Since that time the species has been steadily increasing in numbers, and has spread over a large section of central Chile. According to Rahmer (3), considerable flocks were observed near Machalí, east of Rancagua, O'Higgins, in the fall of 1910 and 1911, and at about the same period it was noticed near Baños de Cauquenes. In the summer of 1912, C. Reed (3) found the species common at Limache, Valparaíso. In the vicinity of San Bernardo R. Housse met with the first specimens in 1912, and since 1921 it has established itself there in small numbers. Passler (3), who lived in Coronel from the end of August, 1914, to October, 1918, records its presence in that neighborhood, describing its eggs (eight taken) and parasitic habits. R. Barros (5) mentions it as a rare resident in the Precordillera of Aconcagua up to 5,000 feet, and adds that he also observed it at various localities in Curicó, while one of his correspondents, Professor Prado, reported its occurrence, in 1916, at Talagante, Prov. Santiago. In the Angol Valley, Malleco, according to Bullock, it has become settled only during the past fifteen or twenty years.

Sanborn shot a bird in juvenile plumage at San José de Maipo (alt. 3,000 feet), Prov. Santiago, and a nearly mature male at Romero, Coquimbo, which marks the northern limit of the actual range of the Cowbird in Chile. Other specimens have been received by the Museum, as listed above, from the provinces of Valparaíso, Santiago, and Colchagua.

Both Carlos Reed and Rafael Barros believe it to be very unlikely that the Cowbird, avoiding, as it does, the higher mountain ranges, crossed the Andes unaided from Mendoza, where it is known to be abundant, and advance the theory that its present Chilean population may have originated from liberated cage-birds which are frequently imported from Argentina.

56. *Molothrus badius badius* (Vieillot)

Agelaius badius Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 34, p. 535, 1819—based on Azara, No. 63; Paraguay and La Plata River.

Agelaioides badius Friedmann, The Cowbirds, p. 5, 1929—Curicó, Chile.

Range in Chile.—Recently introduced in the central section (Curicó).

Material examined.—Curicó: ♂ ad., Dec., 1923 (Carlos S. Reed (Museum of Comparative Zoology, Cambridge, Mass.)).

The single specimen courteously loaned by Mr. Outram Bangs agrees in dimensions (wing 90; tail 78; bill 18) with a series from Paraguay, Uruguay, and Buenos Aires.

So far as I know, this species has not otherwise been recorded from Chile. According to the collector's note on the label, it has but recently been introduced from Argentina.

57. *Agelaius thilius thilius* (Molina)

Turdus thilius Molina, Saggio Stor. Nat. Chile, pp 250, 345, 1782 Chile (descr. of male); Kittlitz (3), p. 175 Quillota, Valparaíso.

Xanthornus chrysocarpus Vigors, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 2, p. 3, March, 1832 Chile (descr. of male and female), Kittlitz (3), p. 177—Quillota.

Agelaius xanthocarpus Bonaparte, Consp. Av., 1, p. 430, 1850—"Peru" = Chile (types in Paris Museum examined).¹

Xanthornus chilensis (Reichenbach MS.) Bihra, Denks. math.-naturw. Kl. Ak. Wiss. Wien, 5, p. 130, 1853 twelve hours from Valparaíso in a low, swampy region.

Xanthornus chrysopterus (not of Vieillot) Darwin, p. 106 Chile as far north as the valley of Copiapó.

Icterus thilius Meyen, p. 84—northern Chile; Fraser (1), p. 113—Chile (habits); Yarrell, p. 53 (eggs).

Cacicus chrysocarpus Des Murs (2), p. 345 Chile (ex Vigors); Waugh and Lataste (1), p. LXXXVI—Peñaflor, Santiago (plumages); idem (2), p. CLXXI San Alfonso, Quillota.

Xanthornus cayennensis Des Murs (2), p. 346—Copiapó Valley; Boeck, p. 503 near Valdivia; Philippi (2), p. 13 Chile (crit.); Frauenfeld, p. 637 near Valparaíso; Philippi (12), p. 262 Chile (crit.); Landbeck (9), p. 251 Chile (habits); Lataste (2), p. XXXIV Cautín, Curicó; idem (5), p. LXII Lohuac, Maule.

Agelaius thilius Cassin, p. 170, pl. 16, fig. 1 Chile; Salvin (2), p. 422—Coquimbo; Allen, p. 84 Valparaíso; Lane, p. 25 Hacienda Mansel (Santiago), Arauco, and Rio Bueno (Valdivia); Schalow (2), p. 721—Ovalle (Coquimbo) and Santiago (egg descr.); Albert (1), 101, p. 919—Chile (monog.); Housse (1), p. 49 Isla La Mocha; idem (2), p. 148—San Bernardo.

Agelaius theleus Germain, p. 311—Santiago (nesting habits).

¹The types, Nos. 6,166, 6,168, of the mounted collection in the Paris Museum, were collected by Claudio Gay in Chile in 1837 and 1843 respectively. They are both immature males, and measure as follows: wing 93; tail 78, 80; bill 20, 21. Bonaparte's description of the "female" appears to have been based upon a young *A. cyanopus* obtained by d'Orbigny in Chiquitos, Bolivia.

Agelasticus thilius Pelzeln (2), p. 89—Chile; Sclater (2), 1867, pp. 323, 338—Chile; E. Reed (2), p. 545—Cauquenes, Colchagua; Gigoux, p. 83—Caldera, Atacama.

Agelaius thilius thilius Barros (4), p. 150—Nihahue and Quiahue, Curicó; idem (5), p. 192—Cordillera of Aconcagua; Passler (3), p. 480—Coronel (habits, nest, and eggs).

Agelaeus thilius E. Reed (4), p. 200—central and southern Chile; Jaffuel and Pirion, p. 109—Marga-Marga Valley, Valparaíso; Bullock (4), p. 187—Angol, Malleco.

Range in Chile.—From Atacama (Copiapó Valley) to Valdivia.

Material collected.—Atacama: Ramadilla (Copiapó Valley), ♂ ad., Aug. 23.—Coquimbo: Romero, ♀ ad., July 20.—Concepción: Hacienda Gualpencillo, two ♂♂ ad., one ♂ (first annual), one ♀ ad., March 30 to April 4.

Additional specimens.—Talca: Talca, ♂ ad., Aug. 18, 1924. C. S. Reed (Field Museum).—Concepción: Talcaguano, ♀ ad. Voyage of the "Astrolabe" (Paris Museum).—"Chile" (unspecified): seven ♂♂ ad., two ♀♀ ad. C. Gay and E. C. Reed (Paris Museum).

The "Trile" is particularly abundant in the central provinces from Coquimbo to Concepción. Farther south it becomes less plentiful, and, according to Boeck, it is rather rare around Valdivia. The most southerly point on record appears to be Rio Bueno,¹ where it was found by Lane, though this naturalist observes that south of Valdivia these birds may possibly be only summer migrants. It does not seem to occur on Chiloé Island. In the north, a few have drifted into the Copiapó Valley where it is reported to be by no means very common.

This bird lives about reed-beds, swamps, streams, lakes, and rivers, and its vertical distribution does not reach beyond 3,000 feet.

Chilean birds do not exhibit any racial variation so far as I can see from the limited material on hand. They are of rather large size, the wings of adult males measuring from 92 to 96, those of females from 85 to 88 mm. Birds from the highlands of Bolivia and southern Peru average slightly larger (wing of males 95-101), and are of rather darker coloration in the female sex. To substantiate this divergency, a much larger series is, however, required than I have been able to examine.

East of the Andes, in Argentina, Uruguay, and Rio Grande do Sul, the typical "Trile" is replaced by a decidedly smaller form, which

¹I have strong suspicions that a specimen said to have been obtained at Port Famine, Straits of Magellan, by the "Astrolabe" Expedition, in the collection of the Paris Museum, is erroneously labeled.

Peters¹ proposed to distinguish as *A. thilius chrysopterus* (Vieill.). It seems, however, questionable if this name can be retained, since *Agelaius chrysopterus* Vieill., mainly based on *Oriolus cayanensis* Latham, is a hopeless composite of three different species, so far as the male is concerned, and only the description of the female drawn from Azara (No. 67) refers to the small eastern form of *A. thilius*.

[*Pseudoleistes guirahuro* (Vieillot), which is included by Gay (p. 349) s. n. *Leistes viridis* in the Chilean fauna, does not occur anywhere in Chile, its range being restricted to southern Brazil and adjacent countries.]

58. *Notiopsar curaeus* (Molina)

Turdus curaeus Molina, Saggio Stor. Nat. Chile, pp. 252, 345, 1782—Chile.
Sturnus aterrimus Kittlitz, Mém. Acad. Sci. St. Pétersb., (sav. étr.), 2, p. 467, pl. 2, Aug., 1835 near Valparaiso; idem (3), p. 153—Valley of Los Sorres, near Valparaiso (type from Valparaiso in Leningrad Museum; see Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 18, 1921).

Leistes niger Swainson, Anim. Menag., p. 304, Dec., 1837—Chile; Peale, p. 112—Valparaiso.

Quiscalus pilaris (Lichtenstein MS.) Bibra, Denks. math.-naturw. Kl. Ak. Wiss. Wien, 5, p. 129, 1853—new name for *Sturnus aterrimus* Kittl. and *Leistes niger* Swains.; Chile.

Agelaius chopi (not of Vieillot) Darwin, p. 107—pasture grounds of Chile; Bridges, p. 94—Chile.

Agelaius curaceus [sic] Fraser (1), p. 113—"intermediate provinces of Chile."
Agelaius aterrimus Des Murs (2), p. 348—Chile (ex Kittlitz).

Agelaius curaeus Des Murs (2), p. 348 Chile; Boeck, p. 503—Valdivia; Frauenfeld, p. 637 near Valparaiso; Philippi (12), p. 263 Chile; Lataste (1), p. CXIV Bureo, Ñuble, l. c., p. CXV Ninhue, Maule; idem (2), p. XXXIV Caillhue, Curicó; Waugh and Lataste (1), p. LXXXVI-Peñaflo, Santiago; idem (2), p. CLXXII San Alfonso, Quillota.

Psarocolius curaeus Hartlaub (3), p. 213 Valdivia; Cassin, p. 178, pl. 15 Chile; Germain, p. 312 Santiago (nesting habits).

Leistes curaeus Pelzeln (2), p. 89 Chile.

Agelaius caracus [sic] Landbeck (9), p. 252 Chile (habits, nest, and eggs).

Curaeus aterrimus Slater (2), 1867, pp. 323, 338 Chile; E. Reed (2), p. 545—Cauquenes, Colchagua; Salvin (2), p. 423 Chile; Allen, p. 84—Valparaiso; E. Reed (4), p. 200—Chile; Lane, p. 27 Hacienda Mansel, Santiago, and Calle-Calle, Valdivia; Schalow (2), p. 720—Ia Serena, Coquimbo;

¹Bull. Mus. Comp. Zool., 65, p. 337, 1923.

²*Notiopsar* Oberholser (Proc. Biol. Soc. Wash., 34, p. 136, 1921) replaces *Curaeus* Slater (Cat. Coll. Amer. Birds, p. 139, 1862), which seems to be invalidated by *Cureus* Boie (Isis, 1831, col. 541).

Albert (1), 101, p. 916—Chile (monog.); Housse (1), p. 49—Isla La Mocha; Jaffuel and Pirion, p. 109—Marga-Marga Valley, Valparaíso; Bullock (3), p. 125—Cerro de Nahuelbuta, Malleco; idem (4), p. 187—Angol, Malleco. *Curaeus curaeus* Barros (4), p. 150—Nilahue, Curicó; idem (5), p. 192—Cordillera de Aconcagua; Housse (2), p. 148—San Bernardo, Santiago; Passler (3), p. 480—Coronel (nest and eggs); Bullock, El Hornero, 3, p. 94—Chile (nest).

Notiopsar curaeus Wetmore (3), p. 378—Concon.

Range.—From Coquimbo to the Straits of Magellan.

Material collected.—Malleco: Curacautin, ♂ ad., Jan. 10.—Valdivia: Máfil, ♂ ad., ♀ ad., ♂ (in juvenile molt), ♀ juv., Feb. 14–28.—Chiloé Island: Rio Inio, ♂ ad., Jan. 16; Quellon, four ♂♂ ad., ♀ juv., Dec. 22–Jan. 5.

Additional specimens.—Concepción: Concepción, ♂ ad., May 2, 1903. C. S. Reed (Field Museum).

The Chilean Blackbird is abundant throughout central and southern Chile, being mostly found in agricultural districts and on brushy hill slopes. In the mountains it is rarely seen above 4,500 feet. After the breeding season the birds congregate in flocks, and are to a certain extent migratory.

Along the Straits of Magellan and in Tierra del Fuego it is reported to be plentiful, and Wetmore¹ recorded specimens from the Rio Corcovado, in the vicinity of Lago General Paz, western Chubut.

This may truly be termed a typical Chilean genus, its range being practically confined to that country, although it encroaches in places on Argentine territory.

59. *Pezites*² *militaris militaris* (Linnaeus)

Sturnus militaris Linnaeus, Mant. Plant. Altera, p. 527, 1771—based on Daubenton, Pl. Enl., 113, "in Terra Magellanica"; Poeppig (2), p. 280—Rio Colorado, Santiago; Kittlitz (3), pp. 147, 177—Valparaíso and Quillota; Jaffuel and Pirion, p. 109—Marga-Marga Valley, Valparaíso.

Sturnus loyca Molina, Saggio Stor. Nat. Chile, pp. 254, 345, 1782—Chile.

Sturnella loica Bridges, p. 93—Chile; Fraser (1), p. 113—Chile; Yarrell, p. 53 (egg); Pelzeln (2), p. 89—Chile.

Icterus militaris Meyen, p. 83—Chile.

Leistes americanus Des Murs (2), p. 350—Chile; Philippi (12), p. 263; Landbeck (9), p. 252—Chile (habits); Lataste (1), p. CXIV—Bureo, Ñuble;

¹Univ. Calif. Pub. Zool., 24, p. 457, 1926.

²*Pezites* Cabanis, 1851, is the proper generic name for the Red-breasted Ground-Starlings, since *Trupialis* Bonaparte, 1850, is invalidated by *Trupialis* Merrem (in Ersch and Gruber, Allg. Encycl. Wiss. & Künste, 15, p. 275, 1826), who proposed it as a substitute for *Oriolus* Illiger, a synonym of *Icterus* Brisson.

l. c., p. CXV—Ninhue, Maule; idem (2), p. XXXIV—Caillihue, Curicó; Waugh and Lataste (1), p. LXXXVI—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso, Quillota.

Sturnus americanus Gay, Atlas, pl. 5; Boeck, p. 503 Valdivia, more common farther inland.

Sturnella militaris Vigors, Zool. Capt. Beechey's Voy., p. 20—Concepción; Fraser (2), p. 157—Chile; Peale, p. 113—Chile; Bibra, p. 129—Chile; Cassin, p. 179, pl. 16, fig. 2—abundant in Chile; Kittlitz (3), p. 121—Santomé, Concepción; Germain, p. 312—Santiago (nesting habits); Frauenfeld, p. 637—near Valparaíso; Sclater (2), 1867, pp. 323, 338—Chile; E. Reed (2), p. 546—plains of Cauquenes; Salvin (2), p. 422—Coquimbo.

Trupialis militaris Allen, p. 84—Valparaíso; E. Reed (4), p. 200—part, Chile; Lane, p. 26—Hacienda Mansel (Santiago), Colico (Arauco), and Calle-Calle (Valdivia); Schalow (2), p. 721—Ovalle and La Serena (Coquimbo), and Santiago; Albert (1), 101, p. 911—Chile (in part); Barros (4), p. 150—Ninahue, Curicó; idem (5), p. 192—Cordillera of Aconcagua; Housse (2), p. 148—San Bernardo; C. Reed (4), p. 57—Lampa, Santiago; Bullock, El Hornero, 3, p. 94—Chile (nest); idem (3), p. 125—Cerro de Nahuelbuta, Malleco; idem (4), p. 186—Angol, Malleco.

Leistes superciliaris (not of Bonaparte) Fuentes, p. 291—Easter Island (introduced); Lonnberg, p. 19—Easter Island (ex Fuentes).

Trupialis militaris militaris Passler (3), p. 481—Coronel (habits, nest, and eggs); Wetmore (3), p. 373—Concon, Valparaíso.

Range in Chile.—From Coquimbo to the Straits of Magellan. Introduced on Easter Island.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., Aug. 23; Caldera, two ♂♂ ad., one ♀ ad., April 25, June 30, Aug. 2, 1924. E. Gigoux.—Coquimbo: Romero, ♂ ad., July 11; Paiguano, ♂ ad., June 15. Valparaíso: Palmilla, La Cruz, ♂ ad., Nov. 10, 1924. J. A. Wolffsohn. Concepción: Hacienda Gualpencillo, ♂ ad., April 16. Valdivia: Ríñihue, ♂ ad., March 16; Máfil, ♂ ad., two ♀♀ ad., two ♀♀ juv., Feb. 17 25. Llanquihue: Puerto Montt, ♂ ad., April 15; Río Ñirehuau, ♂, March 17.

Compared with a small series from Tierra del Fuego and southern Patagonia (Chubut), Chilean birds are somewhat smaller (wing of adult males 115-124, against 129-134), but as equally small individuals occur also at Buenos Aires, I do not think there is sufficient ground for recognizing *P. militaris loyca* as a distinct race.

The "Loica" is widely distributed all over Chile, extending in the north as far as Coquimbo. Its altitude range in the Cordillera of Aconcagua extends up to about 8,000 feet, as we learn from R. Barros's observations. It has been introduced on Easter Island, but does not thrive well.

60. *Pezites militaris bellicosa* (Filippi)

Sturnella bellicosa Filippi, Mus. Mediol., Anim. Vertebr., cl. ii, Aves, pp. 15, 32, 1847—"Amer. trop. occ.," type in Milan Museum; see Salvadori, Atti R. Accad. Sci. Torino, 3, pp. 274, 275, 1868 (crit.).

Leistes albipes Philippi and Landbeck, An. Univ. Chile, 19, p. 616, 1861—"Peru"; idem, Arch. Naturg., 29, (1), p. 128, 1863—Arica, "Peru."

Sturnella militaris (not of Linnaeus) Lafresnaye and d'Orbigny, Syn. Av., 2, p. 8—Arica.

Trupialis militaris Albert (1), 101, p. 911—Chile (in part).

Range in Chile.—Extreme north, in province of Tacna.¹

Material collected.—Tacna: Chacalluta, two ♀ ♀ ad., July 21.

Additional specimens.—Tacna: Tacna, ♂ ad., Jan., 1831. D'Orbigny; Arica, juv., Jan., 1831. D'Orbigny (Paris Museum).

The Tacna specimens agree in every particular with a series from western Peru, which we take for typical *bellicosa*, and differ from the common Chilean form by markedly shorter bill. They measure: ♂, 26; ♀ ♀, 23–24 mm.

The range of this form is entirely cut off from that of *T. m. militaris* by the intervening desert of Atacama, where no representative of the genus occurs.

[*Psilorhinus chilensis* Bonaparte (Consp. Gen. Av., 1, p. 381, 1850)—supposed to be the same as *Cyanocorax cyanomelas* (Vieillot)—was erroneously credited to "Chile." No representative of the Crow Family is known to occur in that country.]

61. *Agriornis livida livida* (Kittlitz)

Tamnophilus lividus Kittlitz, Mém. Acad. Sci. St. Pétersb., (sav. étr.), 2, p. 465, pl. 1, 1835—hills around Valparaíso; idem, Denkwurd., 1, pp. 121, 147—San-Tomé, Concepción, and near Valparaíso (type from Valparaíso in Leningrad Museum, fide Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 18, 1921).

Tyrannus gutturalis Fydeaux and Gervais, Mag. Zool., 6, cl. 2, pl. 63, 1836—Chile; idem, Voy. Favorite, 5, (2), p. 32, pl. 11, 1839—Chile (part, descr. of type).

Pitangus chilensis Lesson in Bougainville, Journ. Navig. Thétis, 2, p. 323, 1837—Valparaíso.

Agriornis marginalis (Reichenbach MS.) Bibra, Denks. math.-naturw. Kl. Ak. Wiss. Wien, 5, p. 129, 1853—coast range near Valparaíso.

¹The specimens from "Chile" recorded by Pelzelin (p. 89) as *Sturnella brevirostris* (supposed to be synonymous with *S. bellicosa*) are either not that form or else the locality is erroneous.

Agriornis gutturalis Darwin, p. 56 - Valparaíso and as far north as Copiapó; Fraser (1), p. 111—central provinces.

Pepoza livida D'Orbigny, p. 351 Valparaíso.

Dasycephalus livida Des Murs (2), p. 327 Chile; Boeck, p. 502—Valdivia; Philippi and Landbeck, Arch. Naturg., 29, (1), p. 136, 1863—Valdivia (in the pampas), and central and northern Chile (on mountain slopes); Philippi (12), p. 259 Chile; Landbeck (9), p. 241 - Chile (habits); Philippi, Ornith., 4, p. 159 - Atacama; Lataste (5), p. LXI - Llohué (Itata), Maule; Waugh and Lataste (1), p. LXXXV - Peñaflores, Santiago; idem (2), p. CLXXI—San Alfonso (Quillota), Valparaíso.

Agriornis livida (n.) Cassin, p. 183—Chile; Germain, p. 311 -Chile (nesting habits); Pelzel (2), p. 78 Chile; Slater (2), 1867, pp. 325, 338—Chile; E. Reed (2), p. 519—Cauquenes, Colchagua; Salvin (2), 1883, p. 423—Talcaguano; E. Reed (4), p. 200—Chile; Lane, p. 28—below the town of Arauco; Schalow (2), p. 720 part, Quiriquina, near Concepción; Albert (1), 104, p. 98 - Chile (monog.); Barros (4), p. 145 Nilahue, Curicó; idem (5), p. 182 Cordillera of Aconcagua; Housse (2), p. 145—San Bernardo, Santiago; Jaffuel and Pirion, p. 107—Marga-Marga, Valparaíso; Bullock (4), p. 178—Angol, Malleco.

Agriornis livida livida Hellmayr, Nov. Zool., 32, p. 328, 1925—Valparaíso (range); Wetmore (3), p. 295 Concon, Valparaíso.

Range in Chile.—From Atacama south to Valdivia.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♀ ad., Aug. 22.—Coquimbo: Romero, two ♂♂ ad., July 11, 19.—Valparaíso: Quillota, ♂ ad., June 6, 1923. C. S. Reed.—Curicó: Teno, ♂ ad., May 27, 1923. C. S. Reed.—Cautín: Villa Portales (alt. 3,300 feet), Lonquimai Valley, ♂ ad., ♀ juv., Feb. 9, 10; Rio Lolen (alt. 3,600 feet), Lonquimai Valley, ♂ juv., ♀ juv., Feb. 9, 11; Pelal, Temuco, ♀ ad., June 6, 1913. A. C. Saldaña.

Additional specimens. Valparaíso: Valparaíso, four adults. D'Orbigny (Paris Museum). Santiago: Peñaflores, ♂ ad., Jan. 17, 1894. F. Lataste (British Museum). Concepción: Talcaguano, ♂ ad. Voyage of the "Astrolabe" (Paris Museum). Arauco: below Arauco City, ♀ ad., Aug. 27, 1890. A. A. Lane (British Museum).—Also fourteen skins from "Chile" and "Central Chile" (British Museum).

I am unable to perceive any constant difference in coloration between specimens from various parts of Chile. Those from the north (Coquimbo to Atacama) appear to be smaller, but the series of properly sexed birds is much too inadequate to make sure of this variation. Specimens with attenuated outer primaries are evidently rare exceptions in this species, for I found this character present in only four out of a total of thirty-three skins which I examined.

The "Zorzal mero común" inhabits chiefly the central parts of the republic from Copiapó south to Curicó. Its range extends from the seacoast to about 6,000 feet in the precordillera. It is reported to be common in Valparaíso and Santiago provinces, and several naturalists met with it in Coquimbo and in the Copiapó Valley, Atacama. According to Barros, it is rather uncommon in the foothills of Aconcagua, though less so in autumn and winter, and not very plentiful in the Nilahue Valley, Curicó. Being a bird of the open country, the "Zorzal mero" is of somewhat local occurrence in southern Chile. Lataste found it at Llohué (Itata), Maule. There are several records from Concepción (San-Tomé, Quiriquina, Talcaguano), but Pässler does not include it among the birds of Coronel. Lane obtained a single example in the sand-dunes near the town of Arauco in August. Bullock lists it only as a winter visitor for the Angol Valley, Malleco. In the hills of Cautin, at elevations of 3,300 to 3,600 feet, Sanborn, however, in February secured an adult bird in worn plumage together with some full-grown young ones, which indicates that the birds had been breeding in the neighborhood. According to Boeck and Landbeck, it is exceedingly rare in the pampas of Valdivia, this province marking the southern limit of its range.

In actions, this bird is said to resemble somewhat the thrushes. Its food consists of insects, lizards, frogs, and mice. Landbeck tells us that it builds its rather carelessly constructed nest in forks of trees, and lays four to six greenish-white, brown-spotted eggs.

62. *Agriornis livida fortis* Berlepsch

Agriornis livida fortis Berlepsch, *Ornis*, 14, pp. 352, 466, 1907—Valle del Lago Blanco, Chubut (type in Tring Museum examined); Hellmayr, *Field Mus. Nat. Hist., Zool. Ser.*, 13, Part 5, p. 2, 1927—Rio "Nireguao," Llanquihue.

Range in Chile.—From extreme southern Llanquihue (Rio Ñirehuau) through western Patagonia to Tierra del Fuego.

Material collected.—Llanquihue: Casa Richards, Rio Ñirehuau, ♂ ad., one (unsexed) adult, Feb. 26, March 1.

These birds, both of which are in annual molt, agree with a series from Valle del Lago Blanco, Chubut.

The only constant characters of this form are its longer wings and tail. There is no difference in color nor is the dusky tip to the lower mandible more extensive. Some of the Chilean birds have even larger, stronger bills than those from Chubut. This is a Patagonian

form, whose range extends throughout the foothills of the Argentine Andes from the vicinity of Lake Nahuel Huapi to Tierra del Fuego.

MEASUREMENTS

| | Wing | Tail | Bill |
|---|---|---|-------------------------|
| <i>A. l. livida</i> —Adult males | | | |
| Two from Coquimbo | 125,127 | 103,107 | 29,29½ |
| Five from Valparaiso | 129,129,130, 133,134 | 107½-116 | 28½-32½ |
| One from Curicó | 130 | 113 | 30½ |
| One from Cautin | 130 | 112 | 27½ |
| <i>A. l. livida</i> —Adult females | | | |
| One from Copiapó | 119 | 106 | 29 |
| One from Cautin (Temuco) | 135 | 114 | 29 |
| <i>A. l. fortis</i> —Adult males | | | |
| One from Rio Ñirehuau | 140 | 116 | 30½ |
| Eight from Valle del Lago Blanco, Chubut | 138,140,142, 142,142,144, 148,149 | 118,120,120, 122,122,125, 126,126 | 28½,30(five), 30½,31 |
| One from Puesto Burro, Chubut | 144 | 122 | 30½ |
| <i>A. l. fortis</i> —Adult females | | | |
| Three from Valle del Lago Blanco, Chubut | 135,141,142 | 120,120,125 | 29½,30,31 |
| Two from Nahuel Huapi | 142,143 | 114,118½ | 30,31 |

63. *Agriornis montana intermedia* Hellmayr

Agriornis montana intermedia Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 5, 1927—Putre, Prov. Tacna.

Range in Chile.—Extreme north, in province of Tacna. Also in western Bolivia (depts. of La Paz and Oruro).

Material collected.—Tacna: Putre (alt. 11,600 feet), three ♂♂ ad., one ♀ ad., June 18, July 3 7.

This is a connecting link between the Peruvian *A. m. insolens* with white outer half of tail and *A. m. maritima* with bicolored lateral rectrices. The black at the base is much less extended than in the latter, the two outermost pairs being sometimes even wholly white, whereas in *A. m. insolens* the four lateral pairs are white, with occasionally a narrow dusky inner margin on the fourth and very rarely also on the third (from without). While most of the specimens from Tacna Province and western Bolivia thus occupy an intermediate position, examples with the largest amount of black (a male from Putre, and two from La Paz) are hardly distinguishable from *maritima*, and those with a minimum of dusky markings (a female from Putre, a male from Chililaya, Lake Titicaca, and another male from Mauri, La Paz) closely approach *insolens*.

Birds from Tacna are decidedly grayish above (like *maritima*), whereas those from Bolivia, in more brownish upper parts, resemble *A. m. montana*, of eastern Bolivia and northwestern Argentina.

A. m. intermedia, like its allies, is an inhabitant of the Puna Zone.

64. *Agriornis montana maritima* (Lafresnaye and d'Orbigny)

Pepoaza maritima Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 65, 1837—Cobija, "Bolivia" = Prov. Antofagasta, Chile (type in Paris Museum examined); d'Orbigny, p. 353—Cobija.

Tyrannus gutturalis (not of Eydoux and Gervais, 1836) Eydoux and Gervais, Voy. Favorite, 5, (2), p. 33, 1839—part, spec. from Coquimbo.

Agriornis maritimus Darwin, p. 57—part, Copiapó.

Agriornis maritima Sclater and Salvin, P. Z. S. Lond., 1879, p. 609—Cobija and desert of Atacama; Sharpe, p. 8—Coquimbo; Sclater (6), 1891, p. 134—Sacaya, Tarapacá; Lane, p. 29—about Sacaya (habits); Berlepsch, Ornith., 14, pp. 464, 467, 1907—part, Chile; Gigoux, p. 87—Caldera, Atacama.

Dasycephala maritima Philippi, Ornith., 4, p. 159—Antofagasta.

Agriornis montana montana (not *Pepoaza montana* Lafresnaye and d'Orbigny) Hellmayr, Nov. Zool., 32, p. 330, 1925—part, Cobija.

Agriornis montana maritima Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 6, 1927—from Tarapacá to Coquimbo (crit.).

Range.—Temperate and Puna Zones of northern Chile, from Tarapacá to Coquimbo.

Material collected.—Antofagasta: San Pedro (alt. 10,500 feet), ♂ juv., Oct. 1.—Atacama: Caldera, ♂ ad., March 21; Domeyko, three ♀ ♀ ad., Aug. 10-15.—Coquimbo: Baños del Toro (alt. 10,600 feet), ♂ ad., ♀ ad., Nov. 9, 15.

Additional specimens.—Antofagasta: Cobija, ♂ ad. (type of species). D'Orbigny; one unsexed bird (without attenuation of outer primaries). F. Eydoux, Voyage de la Bonite (Paris Museum).—Tarapacá; Sacaya, ♂ (first annual), March 16, 1890. A. A. Lane (British Museum).—Coquimbo: Coquimbo, ♀ ad., June, 1879. Coppinger (British Museum).

Some of our birds have been directly compared with the type from Cobija in the Paris Museum. The series from northern Chile tends to show that *A. m. maritima*, after all, is separable from *A. m. montana*, of eastern Bolivia (Cochabamba, Sucre, Santa Cruz) and northwestern Argentina (Tucumán, Jujuy) by much less brownish upper parts, duller (less buffy) breast, and more conspicuous, blackish rather than brownish, streaking on the throat. In tail pattern, viz. in having an extensive black area on the inner web of the lateral rectrices, the two races are practically identical.

A single specimen from Sacaya, Tarapacá, is indistinguishable from our series, and must doubtless be referred to *maritima*.

The nesting grounds of "d'Orbigny's Gaucho" are the elevated Cordilleras in the Puna Zone. The birds obtained by Sanborn in November at Baños del Toro, Coquimbo, at an altitude of more than 10,000 feet, are in worn breeding plumage, and a fledgling, not yet able to fly, was taken at San Pedro (alt. 10,500 feet), Antofagasta. Lane found these birds at Sacaya and in other localities of the Andes of Tarapacá up to 10,000 feet, where they nested about November and December. It seems, therefore, almost certain that they visit the foothills and coast district only in winter time. Although Gigoux lists *A. maritima* as a resident for the vicinity of Caldera, all the specimens we have seen from the lowlands were taken outside of the breeding season, viz. Caldera (March), Domeyko (August), and Coquimbo (June). According to Lane, these birds frequent rocky slopes bordering the valleys, where they perch on the tops of bushes or boulders, and feed largely on small sand-lizards common in the region. The nest is composed of llama wool and rags picked up about Indian homesteads, and is clumsily constructed on ledges of rock in caves or on the sides of ravines. The eggs appear to be undescribed.

65. *Agriornis montana leucura* Gould

Agriornis leucurus Gould in Darwin, Zool. Beagle, 3, Part 6, pl. 13, Jan., 1839—type from Port Desire, Patagonia, in British Museum examined; Bridges, p. 94 Chile, near the summit of the Andes, between 34 and 35 S. lat.

Agriornis marilimus (not *Pepoaza maritima* Lafresnaye and d'Orbigny) Darwin, p. 57 part, in the lofty and arid valleys on the eastern side of the Cordillera of central Chile; Fraser (1), p. 111 elevated valleys of the Andes of Chile on the east and west sides; Pelzeln (2), p. 78 Chile.

Dasycphala maritima Des Murs (2), p. 328 Cordilleras of central provinces; Philippi and Landbeck, Arch. Naturg., 29, (1), p. 137, 1863 Cordilleras of Santiago (habits); Philippi (12), p. 259 central provinces; Landbeck (9), p. 245 Cordilleras of Chile.

Agriornis maritima Selater (2), 1867, pp. 325, 338 Andes of Chile; E. Reed (2), p. 550 Cordillera of Colchagua; idem (4), p. 200 Chile; Albert (1), 104, p. 101 Chile (monog.); Hellmayr, Nov. Zool., 32, p. 331, 1925 part, spec. from "Chili" and "Chilean Andes"; Barros (5), p. 183--Cordillera of Aconcagua; Housse (2), p. 145 San Bernardo, Santiago (September); Barros (10), p. 360 Cordillera of Aconcagua; idem (11), p. 315—Cristo Redentor, Chilean side of Sierra de Mendoza.

Agriornis montana leucura Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 7, 1927—Sewell, Prov. O'Higgins (crit.).

Range in Chile.—Cordilleras of the central provinces, from Aconcagua to Colchagua.

Material collected.—Aconcagua: Salto de los Piuquenes (alt. 2,400 meters), Rio Blanco, ♀ ad. (molting), Feb. 23, 1926. R. Barros.—O'Higgins: Sewell (alt. 6,000 feet), ♂ (first annual), ♀ ad., May 7, 1923. W. H. Osgood.

Additional specimens.—Chile (unspecified): four adults. H. Berkeley James Collection (British Museum); two ♂♂ juv. F. Leybold (Munich Museum).—"Chilean Andes:" ♂ ad., ♂ juv. E. C. Reed (Tring Museum).

Central Chilean birds had generally been referred to *A. m. maritima*, until the receipt of an adequate series from the northern provinces enabled us to show that the form described by Lafresnaye and d'Orbigny was much more closely related to *A. m. montana*, of Bolivia. Specimens from Aconcagua, Santiago, and O'Higgins differ from the preceding race by their very much darker coloration throughout. This is particularly noticeable on the under parts, the breast and sides being dark brown, between drab and hair-brown, sometimes with a slaty cast, while the middle of the abdomen and the under tail coverts are a deep pinkish buff. The dorsal surface is likewise darker, sooty rather than brownish. In *A. m. maritima*, the lower parts are much paler, the breast and sides being light grayish brown, slightly tinged with buffy or light drab, and the under tail coverts cartridge buff or nearly white.

While there is no question as to their distinctness from *A. m. maritima*, of northern Chile, I fail to see how the inhabitants of central Chile can be separated from the Patagonian *A. m. leucura*, which they resemble in the deeply colored under parts. Four skins from Puente del Inca, Prov. Mendoza, also belong to this race.

A. m. leucura is found throughout the Cordilleras from Aconcagua to Colchagua, where it is more or less resident. Philippi and Landbeck as well as Barros state that, while generally distributed from 4,000 up to 11,000 feet, the "Gaucho" is nowhere very common. In winter, some individuals descend to lower altitudes and even to the foothills. Barros encountered a single example in August on the Cerro de la Virgen, Los Andes, Aconcagua, at an elevation of about 1,000 feet, and Housse one in September in the vicinity of San Bernardo, Prov. Santiago.

According to Philippi and Landbeck, the "Gaucho" breeds in crevices of rocks and abandoned mines. Its eggs are white, sparingly dotted with brown.

66. *Agriornis albicauda* (Philippi and Landbeck)

Dasycephala albicauda Philippi and Landbeck, Anal. Univ. Chile, 19, No. 5, p. 618, Nov., 1861—in a valley of the Cordilleras of Peru = Prov. Tacna; idem, Arch. Naturg., 29, (1), p. 132, 1863—same locality.

Agriornis albicauda Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 9, 1927—Putre, Tacna (crit.).

Range in Chile.—Extreme north, in province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., July 4.

This specimen—an adult male in fresh plumage with the tips of the two outer primaries strongly attenuated—is more grayish above and on the breast than three others from Peru, and the dimensions are not quite so large. These insignificant variations are probably individual. The identity of *D. albicauda* never having been satisfactorily established, Mr. K. P. Schmidt, on his visit to Chile in 1926, very kindly took specimens of *A. "pollens"* and *A. m. intermedia* with him for comparison in the National Museum at Santiago. The Chilean collection contains but one specimen labeled "*Agriornis albicauda* Phil. & Landb., Arica." It answers well to the original description, and is without any question the type. Except for more brownish upper parts and a wider dusky margin on the inner web of the two outer tail feathers—divergencies that are of no consequence—the type was found to agree with the male from Putre in Field Museum, resembling it notably in general size, heavy bill with pale brownish lower mandible, and heavy streaking of the throat. *D. albicauda* is thus seen to be an earlier name for *A. pollens*, and has to be adopted in its stead.

A. albicauda, in spite of its striking resemblance to *A. montana*, is evidently specifically distinct, for it lives side by side with members of that "formenkreis" in various parts of its range. The principal characters, whereby it may be readily distinguished, are the larger size, the much stronger bill with pale brownish (flesh color in life) lower mandible, and the heavier, blackish instead of brownish throat-streaking.

Like the members of the *A. montana* group, it is peculiar to the Puna Zone. Within Chilean boundaries it has been recorded only from Tacna Province.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|----------------------------|------|------|------|
| One from Putre, Chile | 135 | 110 | 26 |
| One from Iquico, Bolivia | 143 | 120 | 28 |
| One from near Otuzco, Peru | 139 | 116 | 27 |
| One from Tulpo, Peru | 146 | 123 | 27 |
| One from Huamachuco, Peru | 143 | 120 | 29 |

67. *Xolmis pyrope* (Kittlitz)¹

Muscicapa pyrope Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 191, pl. 10, 1830—near San-Tomé, Concepción, Chile; idem, Denkw., 1, p. 121—San-Tomé (type in Leningrad Museum, cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 17, 1921).

Pyrope Kittlitzii Cabanis and Heine, Mus. Hein., 2, p. 45, 1859—new name for *Muscicapa pyrope* Kittlitz.

Pepoaza pyrope Lafresnaye and d'Orbigny, Syn. Av., 1, p. 63—Valparaíso; d'Orbigny, p. 348—Valparaíso.

Xolmis pyrope Darwin, p. 55—Chiloé Island and along the western coast as far north as Copiapó (egg descr.); Fraser (1), p. 111—Chile.

Taenioptera pyrope Des Murs (2), p. 335—Chile; Hartlaub (3), p. 212—Valdivia; Boeck, p. 503—Valdivia; Cassin, p. 185—Chile; Germain, p. 311—Chile (breeding habits); Pelzeln (2), p. 76—Chile; Sclater (2), 1867, pp. 326, 338—Chile north to Copiapó; Philippi (12), p. 260—Chile; Landbeck (9), p. 248—Chile; E. Reed (2), p. 550—Cauquenes, Colchagua, more common in the south and on the Isla La Mocha; Ridgway (2), p. 132—Port Otway; E. Reed (4), p. 200—Chile; Lane, p. 30—Corral, Calle-Calle, Valdivia, and Maquegua, Arauco (habits); Lataste (1), p. CXV—Ninhue (Itata), Maule; idem (4), p. XXXIII—Caillihue (Vichuquen), Curicó; idem (5), p. LXII—Llohué (Itata), Maule; Waugh and Lataste (1), p. LXXXV—Peñaflor, Santiago; idem (2), p. CLXXI—San Alfonso (Quillota), Valparaíso; Schalow (2), p. 719—Villarica and Lake Llanquihue; Albert (1), 104, p. 104—Chile (monog.); Barros (4), p. 145—Nilahue, Curicó; idem (5), p. 183—Cordillera of Aconcagua; Passler (3), p. 463—Coronel (nesting habits); Gigoux, p. 85—Caldera; Lataste (9), p. 169—Santa Teresa (Requinoa); Housse (1), p. 48—Isla La Mocha, Arauco; idem (2), p. 145—San Bernardo, Santiago; Barros (8), p. 141—Aconcagua; Jaffuel and Pirion, p. 107—Marga-Marga, Valparaíso; Bullock (3), p. 124—Nahuelbuta, Malleco; idem (4), p. 178—Angol, Malleco; Hellmayr, Nov. Zool., 32, p. 326, 1925—Valparaíso (range).

Taenioptera pyrope pyrope Wetmore (3), p. 301—Concon (habits).

Range in Chile.—From Atacama (Copiapó) to the Straits of Magellan, breeding in the southern parts.

Material collected.—Coquimbo: Romero, ♂ ad., July 29.—Aconcagua: Los Andes, ♂ ad., May 16, 1925. R. Barros.—Santiago: Lampa, ♀ ad., June 1, 1924. C. S. Reed.—Maule: Pilen Alto, ♀ ad., May 11.—Concepción: Hacienda Gualpencillo, two ♂ ♂ ad., one ♀ ad., March 27–April 13.—Malleco: Curacautin, two ♂ ♂ ad. (breeding), Jan. 10, 13; Rio Colorado (alt. 3,000 feet), ♂ ad. (breeding), Feb. 4.—Valdivia: Ríñihue, ♂ ad., March 7; Máfil, four ♂ ♂ ad., two ♂ ♂ juv., one ♀ ad., two ♀ ♀ juv., Feb. 15–28.—Chiloé Island: Rio Inio, ♀ ad., Jan. 9; Quellon, three ♂ ♂ ad., two ♀ ♀ ad.,

¹Allen's record (p. 85) of *Taenioptera irupero* from Valparaíso is doubtless due to a wrongly labeled specimen.

Dec. 22-Jan. 4.—Guaitecas Islands: Melinka, Ascension Island, two ♀ ♀ ad., Feb. 1; Canal Lagrèze, Ascension Island, ♂ juv., Feb. 3.

I am unable to discover any racial variation in this species, and even *Taenioptera pyrope ignea* Wetmore,¹ from Patagonia, appears to me inseparable. The olivaceous wash on the upper parts and the ochraceous-buff edges to the under wing coverts are characteristic of the fresh plumage, and completely vanish during the breeding period. It may be that birds from Tierra del Fuego and western Patagonia have the breast slightly less tinged with grayish, but even this divergency is too inconstant to warrant the recognition of a Magellanic race. In juvenile plumage the feathers of the breast and sides are obsoletely streaked with grayish brown in the middle and laterally edged with buffy or whitish. Adults taken in February (at Máfil, Valdivia) are in full molt.

The "Diucon" or "Papamosco" is chiefly found in the southern provinces, where it breeds. It is reported to be plentiful on Chiloé Island as well as in Llanquihue and Valdivia provinces. Bullock lists it as common throughout the year in the Angol Valley, Malleco, and Sanborn also obtained adults in worn breeding garb in the hills of the same province at Curacautin and Rio Colorado. In Arauco and around Concepción, we are told by Lane and Pässler, it nests in small numbers; but its breeding range stretches even into Curicó, where Lataste shot specimens at Christmas time near Caillihue, while Barros records its nesting in the Nilahue Valley. Farther north, the "Diucon" merely occurs as a winter visitor. There are various winter records from the provinces of Valparaiso, Santiago, and Aconcagua, and it even extends its migrations as far north as Coquimbo and the Copiapó Valley.²

X. pyrope prefers the plains and low hills, although during migration it is occasionally also met with in the mountains, for Barros reports having seen specimens as high as 7,000 feet in the Cordillera of Aconcagua.

According to Lane, the nest is placed in the stem of a shrub from 3 to 5 feet from the ground. At Rio Bueno, Valdivia, January seemed to be their proper nesting-season, or perhaps the end of December. Pässler, however, claims that these birds have two broods in the vicinity of Coronel, Concepción, the first taking place about the end

¹Univ. Calif. Pub. Zool., 21, No. 12, p. 384, 1924—Laredo Bay, Straits of Magellan.

²I cannot help thinking that Gigoux's statement of its being a *summer* visitant in the vicinity of Caldera is due to a pen-slip.

of September or early in October, the second around the middle of December. The eggs, two or three in number, are buff with a few rufous or dark brown streaks and dots often crowded round the larger end.

[Lesson (Rev. Zool., 2, p. 100, 1839) described *Pepoaza flavida* from "Chili, in provincia Valparaiso." It was afterwards included by Gay (Hist. fis. pol. Chile, Zool., 1, p. 335, 1847) under the name of *Taenioptera flavida*, his account being merely a Spanish translation of the original description which reads as follows: "Corpore suprà, alis, caudaque flavido-brunnescentibus; collo antici [sic] albedo cum striis brunneis; gulâ et thorace griseis; lateribus ventre [sic], tectricibus inferioribus flavescentibus, pedibus incarnatis." The title of Lesson's paper would seem to indicate that the species had been previously described by him, but I have not been able to find any earlier reference. I know of no Chilean bird to which the above diagnosis could apply.]

68. *Muscisaxicola rufivertex rufivertex* Lafresnaye and d'Orbigny

Muscisaxicola rufivertex Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 66, 1837—part, type from Cobiya, Antofagasta, examined in collection of Paris Museum;¹ d'Orbigny, p. 354, pl. 40, fig. 2—part, Cobiya; Bridges, p. 94—Andes of Chile, S. lat. 34°–35°, on the east and west sides; Fraser (1), p. 112—elevated Andes [of Chile] under the snow; Bibra, p. 129—Santiago; Philippi and Landbeck, Anal. Univ. Chile, 25, p. 432—Cordilleras of Santiago and Colchagua (monog.); idem, Arch. Naturg., 31, (1), p. 95—same localities (monog.); Pelzeln (2), p. 68—Chile; Sclater (2), 1867, pp. 326, 338—Chile; Philippi (12), p. 258—part, central provinces of Chile; Landbeck (9), p. 243—Chile; E. Reed (2), p. 551—Cordillera of Colchagua; Philippi, Ornith., 4, p. 159—Atacama; E. Reed (4), p. 201—Cordilleras of Chile; Albert (1), 104, p. 122—Chile (monog.); Hellmayr, Nov. Zool., 32, p. 331, 1925—part, Cobiya, Santiago, and Mendoza; Barros (5), p. 183—Cordillera of Aconcagua.

Muscisaxicola rufivertex sanborni Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 12, p. 73, 1924—Romero, Prov. Coquimbo.

Pyonura rufivertex Cassin, p. 186—mountains of Chile.

Muscisaxicola flavinucha (errore) Gigoux, p. 86—Caldera, Atacama.

Range in Chile.—Breeds in the Puna Zone of the Cordilleras from Coquimbo to Colchagua, winters in Atacama and Antofagasta.

Material collected.—Coquimbo: Romero, five ♂♂ ad., one ♀ imm., July 15–31; Baños del Toro (alt. 10,600 feet), ♂ ad., two ♀♀ ad. (breeding), Nov. 13–18.—Atacama: Domeyko (alt. 2,600

¹Cf. Arch. Naturg., 85, A, Heft 1P, p. 47 (note 1), 1920, and Nov. Zool., 32, pp. 331, 332, 1925.

feet), ♀ ad., Aug. 16; Caldera, one ♂ ad., two ♂♂ (first annual), one ♀ ad., March 22, June 8, 27, 1924. C. C. Sanborn and E. E. Gigoux.¹—Antofagasta: Gatico, four ♂♂ ad., two ♀♀ ad., April 8–10.

Additional specimens.—Antofagasta: Cobija, one adult (type), one immature (first annual). D'Orbigny, 1831 (Paris Museum); ♂ ad., Feb. 24, 1847. Professor Behn (Berlin Museum).—Santiago: Cordillera of Santiago, two adults. F. Leybold (Munich Museum).—"Chile" (unspecified): four adults (unsexed). E. C. Reed (Paris Museum and Tring Museum).

When first receiving the series from Romero, Coquimbo, I had for comparison only eight specimens from Rio Loa and the vicinity of San Pedro, Antofagasta, which I naturally took for *M. rufivertex* based on birds from Cobija, on the coast of the same province, and noticing the marked difference in the color of the occipital patch I described the dark-crowned Coquimbo form as *M. r. sanborni*. A series subsequently secured by Sanborn at Gatico, a few miles from the type locality of *M. rufivertex*, however, proved to be referable to the same race, and re-examination of d'Orbigny's original examples in the Paris Museum together with the study of breeding specimens from the Cordilleras of central Chile (Coquimbo and Santiago) established the identity of *M. r. sanborni* with *M. rufivertex* Lafr. & d'Orb., the birds occurring in winter on the coast of Antofagasta being evidently migrants from the south. On the other hand, the pale-crowned birds found in the inner Cordilleras of Antofagasta, east of the Atacama desert, turned out to belong to a well-marked resident race, which I have named *M. r. pallidiceps*.

Specimens from Antofagasta (Gatico, Cobija) and Atacama (Caldera) agree with those from farther south in the deep tawny to hazel occipital crest, but have generally shorter bills.

Young birds lack the bright-colored occipital patch and have the upper wing coverts and inner secondaries margined with buffy. These edges persist even after the birds have acquired the rufous crest.

M. r. rufivertex is known to breed in the elevated Cordilleras from Coquimbo to Colchagua.² Sanborn obtained worn breeding adults in November at Baños del Toro, Coquimbo, at an elevation of

¹The two June birds collected by E. E. Gigoux are marked "*M. flavinucha*."

²Allen's record (p. 85) from "Valparaiso" is erroneous. The specimen was doubtless secured either in northern Chile or Bolivia, and may be either *M. r. pallidiceps* or *M. r. occipitalis*.

10,600 feet, and Landbeck tells us that in the Andes of Santiago and Colchagua it ranges up to the edge of the eternal snow. In Aconcagua, the "*Dormilona nuca rojiza*" of the Chileans, according to Barros, arrives in flocks at the end of August or early in September, but soon retires to its breeding grounds in the Cordilleras, being rarely seen below 5,000 feet. Towards the end of the summer the birds start on their northward migration, though a few may be seen as late as May. As shown by Sanborn's collections, they spend the winter on the coast of Coquimbo, Atacama, and Antofagasta.

According to Philippi and Landbeck, this bird is a very active creature, running and flying with rapidity and constantly wagging its tail. Its food consists of insects and berries; in winter of small marine crustaceans. Like *M. albilora*, it builds its nest under stones or in holes of rocks.

69. *Muscisaxicola rufivertex pallidiceps* Hellmayr

Muscisaxicola rufivertex pallidiceps Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 21, 1927—twenty miles east of San Pedro, Antofagasta.

Muscisaxicola rufivertex (not of Lafresnaye and d'Orbigny) Sclater (6), 1891, p. 184—San Pablo, Tarapacá (in part).

Range in Chile.—Puna Zone of Antofagasta, Tarapacá, and Tacna. Also in the adjacent Bolivian departments of Oruro and Potosi, and in northwestern Argentina.

Material collected.—Antofagasta: Rio Loa (alt. 7,500 feet), two ♂♂ ad., ♀ ad. (first annual), April 19, Sept. 11, 13; San Pedro (alt. 10,500 feet), ♀ (first annual), April 23; twenty miles east of San Pedro (alt. 12,600 feet), three ♂♂ ad., two ♀♀ ad., one ♂ (first annual), one ♀ (first annual), April 30, May 1, Oct. 3–11.—Tarapacá: Canchones (alt. about 4,000 feet), ♂ [? ♀] ad., May 30.—Tacna: Alcérrecá (alt. 10,000 feet), ♀ ad., June 17.

Additional specimens.—Tarapacá: San Pablo, ♂ ad., Feb. 20, 1890. A. A. Lane (British Museum).

This series is very uniform, and differs at a glance from *M. r. rufivertex* by much paler, ochraceous-tawny or cinnamonaceous occipital patch. The upper parts are as a rule of a lighter, purer gray, and the size is on average larger. Birds from Sajama (Oruro) and Potosi, Bolivia, and others from northwestern Argentina (Cerro Muñoz, Tucumán, and Cachi, Salta) agree with the Chilean ones.

Judging from the data, this form—in opposition to its southern relative—is more or less resident. Its altitudinal range stretches from 7,500 to nearly 13,000 feet. The taking of a specimen (in May)

at the foot of the Cordillera of Tarapacá suggests, however, that the birds probably descend to lower altitudes on the approach of the severe season. The territory inhabited by *M. r. pallidiceps* is wholly cut off from the coast of Antofagasta, the winter quarters of *M. r. rufivertex*, by the intervening lifeless desert of Atacama.

MEASUREMENTS

| | Wing | Tail | Bill |
|---|-------------------------|--------------------|-----------------------|
| <i>M. r. rufivertex</i> —Adult males | | | |
| One from Cobiya, Antofagasta | 100 | 70 | 16 |
| Four from Gatico, Antofagasta | 99,99,101,102 | 68,68,72,74 | 15,15,15,16 |
| One from Caldera, Atacama | 100 | 70 | 15½ |
| Five from Romero, Coquimbo | 105,105,105, 106,110 | 73,75,76, 77,77 | 16,16½,17½, 18½,19 |
| One from Baños del Toro, Coquimbo | 103 | 75 | 17 |
| One from Cordillera of Santiago | 102 | 72 | 17 |
| One from Mendoza | 105 | 74 | 16 |
| <i>M. r. rufivertex</i> —Adult females | | | |
| Two from Gatico, Antofagasta | 94,96 | 64,68 | 15,15 |
| One from Caldera, Atacama | 96 | 64 | 15 |
| One from Domeyko, Atacama | 101 | 71 | 17½ |
| Two from Baños del Toro, Coquimbo | 99,99 | 69,70 | 18,19 |
| <i>M. r. pallidiceps</i> —Adult males | | | |
| Two from Río Loa, Antofagasta | 110,110 | 76,78 | 17,17½ |
| Three from near San Pedro, Antofagasta | 109,110,113 | 74,75,79 | 16½,17,17½ |
| One (?) from Canchones, Tarapacá | 102 | 67 | 17 |
| One from San Pablo, Tarapacá | 107 | 75 | 18 |
| Two from Sajama, Bolivia | 110,112 | 76,78 | 16,17 |
| One from Cerro Muñoz, Tucumán | 106 | 73 | 15 |
| One from Cachi, Salta | 107 | 73 | 15½ |
| <i>M. r. pallidiceps</i> —Adult females | | | |
| Two from near San Pedro, Antofagasta | 100,106 | 68,74 | 16,16 |
| One from Sajama, Bolivia | 103 | 72 | 17 |
| One from Alcérrecra, Tacna | 103 | 72 | 17 |

70. *Muscisaxicola albilora* Lafresnaye

Muscisaxicola albilora Lafresnaye, Rev. Mag. Zool., (2), 7, p. 60, 1855—patria ignota¹ (type in Museum of Comparative Zoology, Cambridge, Mass., examined).

Muscisaxicola rubricapilla Philippi and Landbeck, Anal. Univ. Chile, 25, No. 3, p. 429, Sept., 1864—Cordillera de la Puerta, Prov. Colchagua, and Laguna de los Piuquenes, Cordillera of Santiago; idem, Arch. Naturg., 31, (1), p. 90, 1865—same localities (habits); Sclater, Ibis, 1866, p. 58—Cordilleras of Santiago and Colchagua; idem (2), 1867, pp. 326, 338—Chile; Philippi (12), p. 258—Cordilleras of Santiago and Colchagua; Landbeck (9), p. 243—Chile; E. C. Reed (2), p. 551—Cauquenes, Colchagua; idem (4), p. 201—Chile; Albert (1), 104, p. 124—central provinces (monog.); Philippi (24), p. 44, pl. 24, fig. 2—Chile; Barros (5), p. 184—Cordillera of Aconcagua; idem (10), p. 362—Precordillera of Aconcagua.

¹Bangs and Penard (Bull. Mus. Comp. Zool., 63, p. 27, 1919) suggest "Santiago, Chile," as type locality.

Range in Chile.—Breeds in the Cordilleras of Aconcagua, Santiago, and Colchagua; winters in Bolivia, Peru, and southern Ecuador.

Material examined.—Santiago: Valle del Yeso, ♀ juv., Jan., 1866. R. A. Philippi; vicinity of Santiago, two ♂♂ ad., one ♀ ad., Oct., 1865. R. A. Philippi (all in United States National Museum).—"Chile" (unspecified): ♂ ad., ♀ ad. R. A. Philippi (Museum of Comparative Zoology, Cambridge, Mass.); ♀ ad., 1872. E. C. Reed (Field Museum).—Locality unknown: No. 4604, Lafresnaye Collection, type of *M. albilora* Lafr. (Museum of Comparative Zoology, Cambridge, Mass.).

The type of *M. albilora* kindly submitted by Mr. Outram Bangs is undoubtedly referable to the present species. It appears to be a somewhat immature bird, as is indicated by the still perceptible traces of the buffy edges to the upper wing coverts and secondaries and the restriction of the rufous occipital patch. Lafresnaye's name having several years' priority replaces Philippi's later term.

The "Dormilona cabeza rojiza," the only species of the genus that our expedition failed to meet, breeds in the Cordilleras of central Chile from Aconcagua to Colchagua at altitudes of from 5,000 to 8,000 feet. Philippi and Landbeck first found it in fair numbers in December, 1860, in the Cordillera of the Hacienda de la Puerta, Colchagua, where the birds lived in pairs on bushy hillsides, and in February, 1861, the same naturalists came across some young birds among rocks on the cerros of the Laguna de los Piuquenes, not far from the mines of Las Arañas, in the Cordillera of Santiago. In Aconcagua Province they inhabit the lower mountain ranges between 5,000 and 8,000 feet, as we are informed by R. Barros. On migration and during spells of bad weather the White-lored Ground-tyrant is frequently seen at lower altitudes. Barros mentions observing scattered individuals in September and October at Los Andes (alt. 3,000 feet), while Philippi and Landbeck report its occurrence in October and November at Dehesa and Aculeo in the vicinity of Santiago.

After the breeding season this species migrates northwards, and hibernates in the Andes of Bolivia, Peru, and Ecuador. We have examined a good many Peruvian specimens, taken at Cajamarca (June 27), Hacienda Queta, near Tarma (July 28), Maraynioc, Pariayacu (July 23), and Anta, Cuzco (July 27), which appear to be perfectly identical with Chilean skins.

Little is known of its habits. According to Philippi and Landbeck, the nest, well constructed of moss and grass-leaves and lined

with feathers and hair, is placed in holes under rocks. The roundish eggs, three or four in number, have a smooth glossy shell, and are white, sparingly marked with minute reddish brown dots.

71. *Muscisaxicola juninensis* Taczanowski

Muscisaxicola juninensis Taczanowski, Orn. Pér., 2, p. 214, 1884—Junín, Peru; Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 23, 1927—Chungará and Choquelimpie, Tacna, Chile.

Muscisaxicola rufivertex (not of Lafresnaye and d'Orbigny) Sclater (4), 1886, p. 398—Huasco, Tarapacá; idem (6), 1891, p. 134—Sacaya and San Pablo, Tarapacá (in part).

Range in Chile.—Puna Zone of provinces of Tarapacá and Tacna.

Material collected.—Tacna: Choquelimpie (alt. 15,000 feet), two ♂♂ ad., three ♀♀ ad., June 21–23; Chungará (alt. 15,150 feet), ♂ ad., June 25.

Additional specimens.—Tarapacá: Huasco, ♀ ad., Feb. 17, 1886. C. Rahmer; near San Pablo, two ♂♂ ad., one (unsexed) adult, May 31, June 2, 1890. A. A. Lane; Sacaya, ♂ ad., March 28, 1890. A. A. Lane (all in the British Museum).

Chilean specimens agree with others from Peru including two topotypes, but are possibly on average smaller. Width and shape of the bill are extremely variable, regardless of locality.

While Sanborn's material constitutes the first actual record of *M. juninensis* from Chile, the species had already been collected by Rahmer and Lane in Tarapacá, but was confused by Sclater with *M. rufivertex pallidiceps*, of which Lane had also secured a single example at San Pablo. The series in the British Museum is precisely similar to our own specimens. Rahmer's bird taken in February molts from the worn breeding garb into the fresh fall plumage.

M. juninensis breeds in the Puna Zone of extreme northern Chile and southern Peru. It is apparently a representative of *M. albilora*, which it replaces from Tarapacá northwards, while no member of this group has yet been discovered either in Coquimbo or Antofagasta. It is, however, interesting to note that in winter *M. albilora* invades the territory occupied by its northern relative.

In general style, *M. juninensis* resembles the central Chilean form, but differs by much more grayish back and much less rufous on the crown, the occipital patch being less extensive, not sharply circumscribed, and duller in tone. Besides, the white loreal streak is less distinct; the white supercilium, so conspicuous in *M. albilora*, is but faintly indicated by an evanescent grayish line; the bill is generally

slenderer and shorter. These comparatively slight differences do not suggest specific distinctness, and I feel quite confident that some day the present form will be designated as *M. albilora juninensis*.

MEASUREMENTS

| <i>M. albilora</i> —Adult males | Wing | Tail | Bill |
|-------------------------------------|-------------|-----------|------------|
| Three from Santiago | 113,115,118 | 71,72,76 | 17,17,17½ |
| One from Cajamarca, Peru | 119 | 77 | 16 |
| One from Queta, Tarma, Peru | 119 | 80 | 16½ |
| One from Maraynioc, Peru | 116 | 76 | 16 |
| One from Cuzco, Peru | 115 | 71 | 17½ |
| <i>M. albilora</i> —Adult females | | | |
| Three from Santiago | 115,115,118 | 68,72,74 | 16,16,16½ |
| One from Maraynioc, Peru | 108 | 70 | 17 |
| <i>M. juninensis</i> —Adult males | | | |
| Two from Junín, Peru | 116,121 | 74,79 | 14,15 |
| One from Lauramarca, Cuzco, Peru | 115 | 74 | 14½ |
| Two from Salinas, Arequipa, Peru | 117,118 | 77,80 | 15,15 |
| Three from Tacna, Chile | 112,114,114 | 73,73,76½ | 15½,15½,16 |
| Three from Tarapacá, Chile | 114,115,117 | 75,76,78 | 14½,15,15 |
| <i>M. juninensis</i> —Adult females | | | |
| Three from Tacna, Chile | 110,111,114 | 71,71,72 | 15,15½,16 |

72. *Muscisaxicola flavinucha* Lafresnaye

Muscisaxicola flavinucha Lafresnaye, Rev. Mag. Zool., (2), 7, p. 59, pl. 3, 1855—Chile; Sclater (2), 1867, pp. 326, 338—Chile; E. Reed (2), p. 551—Cauquenes, Colchagua; idem (4), p. 201—Chile; Albert (1), 104, p. 119—Cordilleras of Chile (monog.); Barros (5), p. 183—Cordillera of Aconcagua; idem (10), p. 362—Aconcagua and Santa Filomena, Santiago.

Muscisaxicola flavivertex Philippi and Landbeck, Anal. Univ. Chile, 25, No. 3, p. 434, Sept., 1864—Cordillera of Santiago; idem, Arch. Naturg., 31, (1), p. 98, 1865—same locality; Sclater, Ibis, 1866, p. 58—Chile (crit.); Philippi (12), p. 258—Cordillera of Santiago; Landbeck (9), p. 243—Chile; Philippi, Ornith., 4, p. 159—Pastos Largos, Atacama; idem (24), p. 47, pl. 17, fig. 2—Chile.

Range in Chile.—Cordilleras from Antofagasta to Colchagua.

Material collected.—Antofagasta: Rio Loa (alt. 7,500 feet), ♂ ad., Sept. 13; twenty miles east of San Pedro (alt. 12,600 feet), two ♂♂ ad., one ♀ ad., Oct. 2–8.—Coquimbo: Baños del Toro (alt. 10,600 feet), six ♂♂ ad., three ♀♀ ad., Nov. 11–18.

Aside from slight variation in the intensity of the occipital patch and in the extent of the grayish flammulation underneath, these specimens agree well together. A number of winter birds taken during June and July in Junín and Marcapata, Peru, are precisely similar. Two adults from Valle del Lago Blanco, western Chubut, are a little darker and more brownish above, but I consider this trifling divergency too insignificant for the recognition of a separate race, whose proper name would be *M. f. hatcheri* Scott, based on a young bird

(without crown-patch) from the sources of the Rio Chico, western Santa Cruz.

The "Fraile" breeds in the Andes of central Chile at elevations of from 7,000 to 12,000 feet. Philippi and Landbeck found it in various localities in the Cordillera of Santiago; Edwyn Reed above Cauquenes, Colchagua; and R. Barros in the Cordillera of Aconcagua; while Sanborn secured a good series of apparently breeding adults, in November, at Baños del Toro (alt. 10,600 feet). Whether the "Fraile" also breeds in Antofagasta remains to be ascertained. Birds obtained east of San Pedro in October are in fresh plumage, and may have been on migration, since on another visit to that place in April and May none were seen. Philippi records the taking of specimens at Pastos Largos, in the first range of the Cordilleras inland of Copiapó, Atacama.

According to Philippi and Landbeck, the "Fraile" frequents rocky mountain slopes with scanty vegetation in the vicinity of water, often near the edge of the snow. In December it builds its nest under boulders or in crevices of rocks. After the breeding season the birds gather in flocks and repair to lower altitudes. In 1923, Housse and Gajardo obtained several examples at Santa Filomena, near the Baños de Jahuel, at not more than 3,000 feet above sea level. In February they start on their northward migration to hibernate in Bolivia and southern Peru, and return to their nesting grounds in September and October.

73. *Muscisaxicola capistrata* (Burmeister)

Ptyonura capistrata Burmeister, Journ. Orn., 8, p. 248, 1860—foot of the Sierra de Mendoza (type in Halle Museum examined).

Muscisaxicola capistrata Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 25, 1927—Ramadilla, Atacama, and Rio Loa, Rio Inacaliri, and San Pedro, Antofagasta.

Range in Chile.—Winter visitor in Atacama, Antofagasta, and doubtless other parts of the republic.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., Aug. 24.—Antofagasta: Rio Loa (alt. 7,500 feet), ♀ ad., Sept. 12; Ojo de San Pedro (alt. 12,400 feet), three ♂♂ ad., May 2; twenty miles east of San Pedro (alt. 12,600 feet), ♀ ad., ♀ imm., April 30; Rio Inacaliri (alt. 12,800 feet), three ♂♂ ad., one ♀ ad., April 25, 27.

Although not previously recorded from Chile proper, Sanborn found this beautiful bird very common in April and May in the

Puna Zone of Antofagasta. Quite recently, R. Barros (Rev. Chil. Hist. Nat., 34, 1930, p. 318) met with it in the vicinity of Puente del Inca, Prov. Mendoza, just beyond the Chilean boundary.

M. capistrata breeds in Tierra del Fuego and Patagonia, north at least to Rio Negro Province. We learn from J. L. Peters¹ that at Huanuluan the birds arrive late in September and breed in October. In March, they start on their northward migration, which carries them as far north as western Bolivia (Sajama, Oruro) and southern Peru (Pichacani, Dept. Puno; July). While in winter quarters, they appear to prefer high elevations, though a single example was shot in the Copiapó Valley, near the coast of Atacama. We have also specimens from Tucumán (Aconquija; Sept. 17) and Catamarca (Laguna Blanca; Sept. 27).

Females are decidedly smaller than the males, but do not differ in coloration.

Seven adult males.—Wing 114, 114, 115, 115, 116, 116, 117; tail 66, 67, 68, 71, 71, 72, 76; bill $15\frac{1}{2}$, 16 (four), 17 (one).

Five adult females.—Wing 105, 107, 107, 108, 109; tail 63, 64, 65, 66, 70; bill 15, 15, 15, 16, 16.

74. *Muscisaxicola frontalis* (Burmeister)

Ptyonura frontalis Burmeister, Journ. Orn., 8, p. 248, 1860—base of the Sierra de Uspallata, Prov. Mendoza (type in Halle Museum examined).

Muscisaxicola nigrifrons Philippi and Landbeck, Anal. Univ. Chile, 25, No. 3, p. 436, Sept., 1864—Laguna de los Piuquenes, Cordillera of Santiago, and Hacienda de la Dehesa, Prov. Santiago; idem, Arch. Naturg., 31, (1), p. 101, 1865—same localities; Sclater, Ibis, 1866, p. 58—Chile (crit.); idem (2), 1867, pp. 326, 338—Chile; Philippi (12), p. 258—Cordillera of Santiago; Landbeck (9), p. 243—Chile; E. Reed (2), p. 550—Cordillera of Colchagua; idem (4), p. 201—Cordilleras of Chile; Albert (1), 104, p. 112—Chile (monog.); Philippi (24), p. 43, pl. 14, fig. 1—Chile.

Muscisaxicola frontalis nigrifrons Berlepsch, Ornith., 14, p. 468, 1907—Chile (crit.).

Muscisaxicola frontalis Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 26, 1927—Baños del Toro, Coquimbo, and east of San Pedro, Antofagasta (crit.).

Range in Chile.—Cordilleras from Antofagasta to Colchagua.

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), two ♂♂ ad., Oct. 6, 8.—Coquimbo: Baños del Toro (alt. 10,600 feet), five ♂♂ ad., two ♀♀ ad., Nov. 11–18.

¹Bull. Mus. Comp. Zool., 65, p. 323, 1923.

Additional specimens.—Santiago: Cordillera of Santiago, two ♂♂ ad., one ♀ ad. E. C. Reed and F. Leybold (Paris Museum and Munich Museum).—"Andes of Chile:" ♀ juv., Oct., 1872. E. Reed (Berlepsch Collection, Frankfort Museum).

The Chilean series does not differ either in size or coloration from Argentine specimens. The chestnut patch at the base of the median crown feathers, which Berlepsch thought was absent in the Chilean form, is exceedingly well developed in five of our males, while two others (one each from Baños del Toro and Antofagasta) as well as the two females show merely traces of it. From the material at hand I can only conclude that *M. nigrifrons* is inseparable from *P. frontalis*.

The Black-fronted Ground-tyrant frequents the elevated regions of the Cordilleras from 8,000 feet upwards. Philippi and Landbeck record it from the Laguna de los Piuquenes in the Cordillera of Santiago (alt. 8,000 feet), whence they secured adult and young birds in February and September. Cold weather and snowfall drive the birds to lower altitudes, and in October and November of 1863 many were seen in the Hacienda de la Dehesa at the foot of the mountains. Barros did not meet with this species in Aconcagua, but Edwyn Reed includes it among the birds of the Cauquenes region, Colchagua, without giving further details. Sanborn obtained a good series in the Cordillera of Coquimbo at Baños del Toro (alt. 10,600 feet). Judging from their somewhat worn plumage, I imagine they were breeding. The female taken east of San Pedro is in similar condition. This locality marks the northern limit of its recorded Chilean range.

This species occurs also in the Argentine Andes from Jujuy south to western Rio Negro (Anecon Grande). Although doubts have been cast on the correctness of the type locality, R. Barros¹ has recently procured a specimen at Cajón de las Vacas, Prov. Mendoza, thus confirming Burmeister's statement.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|--|-------------------------|--------------------|--------------------|
| One from Mendoza (type) | 121 | 78 | 19 |
| One from Jujuy (Cerro Laguna Colorada) | 116 | 71 | 19 |
| Two from Tucumán (Cerro Muñoz) | 114,118 | 73,75 | 18,19 |
| Two from Cordilleras of Santiago | 120,121 | 72,78 | 20,— |
| Five from Baños del Toro, Coquimbo | 115,118,119, 119,120 | 72,73,75, 76,76 | 18,18,19, 19,19 |
| Two from Antofagasta (San Pedro) | 121,124 | 77,79 | 19,19 |
| Adult females | | | |
| One from Cordillera of Santiago | 116 | 75 | 19 |
| Two from Baños del Toro, Coquimbo | 114,115 | 73,75 | 18,19 |

¹Rev. Chil. Hist. Nat., 34, p. 318, 1930.

75. *Muscisaxicola albifrons* (Tschudi)

Ptyonura albifrons Tschudi, Arch. Naturg., 10, (1), p. 276, 1844—Peru.

Muscisaxicola albifrons Philippi and Landbeck, Anal. Univ. Chile, 25, No. 3, p. 421, 1864—Parinacota Mediana, above Tacna, Prov. Tacna; idem, Arch. Naturg., 31, (1), p. 78—same locality; Sclater (4), 1886, p. 397—Sacaya, Tarapacá; E. Reed (4), p. 201—Tarapacá; Albert (1), 104, p. 110—part, Tarapacá (monog.).

Range in Chile.—Puna Zone of the extreme northern section, in provinces of Tarapacá and Tacna.

Material collected.—Tacna: Las Cuevas (alt. 13,500 feet), near Putre, two ♂♂ ad., June 20; Chungará (alt. 15,150 feet), ♂ ad. ♀ ad., June 25.

Not different from Peruvian specimens.

This species, which is immediately recognizable by its gigantic dimensions (wing 150–165 mm.), is characteristic of the Puna Zone of southern Peru and Bolivia, stretching its range into the extreme north of Chile. Froben shot a single example in June, 1853, at Parinacota Mediana, above Tacna, at an altitude of 14,000 feet above sea level. Subsequently, C. Rahmer secured a female at Sacaya, in the Cordillera of Tarapacá. These were the only previous records from Chile.

76. *Muscisaxicola alpina cinerea* Philippi and Landbeck

Muscisaxicola cinerea Philippi and Landbeck, Anal. Univ. Chile, 25, No. 3, p. 422, Sept., 1864—Las Arañas, Valle Larga, and Las Chacarillas, Cordillera of Santiago; idem, Arch. Naturg., 31, (1), p. 80, 1865—same localities; Sclater, Ibis, 1866, p. 57—Cordilleras of Santiago; idem (2), 1867, pp. 326, 338—Chile; Philippi (12), p. 258—Cordilleras of Santiago; Landbeck (9), p. 243—Chile; E. Reed (2), p. 551—Cordillera of Colchagua; idem (4), p. 201—Chile; Albert (1), 104, p. 115—from “southern Chile” to Peru (monog.); Philippi (24), p. 49, pl. 19, fig. 2—Chile; Barros (5), p. 184—Portillo, Cordillera of Aconcagua.

Range in Chile.—Breeds in the Cordilleras of the central provinces from Coquimbo to Colchagua;¹ migrates to Peru.

Material collected.—Coquimbo: Baños del Toro (alt. 10,600 feet), eight ♂♂ ad., one ♀ ad., Nov. 12–18.

The “Dormilona cenicienta” breeds exclusively in the Puna Zone of the central provinces. Philippi and Landbeck discovered it in the Valle Larga and at Las Arañas in the Cordillera of Santiago,

¹A specimen in the British Museum said to be from “Valdivia” is doubtless wrongly labeled. Nor can I believe that *M. cinerea* ever occurs on the forested Isla La Mocha, Arauco, as recorded by Housse (Rev. Chil. Hist. Nat., 28, p. 48, 1924).

at altitudes of from 8,000 to 10,000 feet, while F. Leybold shot a specimen at Las Chacarillas, in the same province. Adults and full-grown young birds were secured in January and February. E. Reed lists them as rather uncommon in the Andes of Colchagua; Barros met with small numbers in November at Portillo (alt. 10,000 feet) in the Cordillera of Aconcagua; and Sanborn collected a good series at Baños del Toro (alt. 10,600 feet), Coquimbo.

According to Philippi and Landbeck, these birds inhabit rocky mountain slopes in the vicinity of water and on the edges of snow fields, are very active, and feed on berries and insects. The nest is placed in crevices of rocks, and contains four or five eggs, which are white dotted with brown around the larger end.

Nothing appears to be known regarding the bird's migratory movements beyond the fact that specimens have been taken in winter (June) in Junín, Peru.¹

¹In my revision of the genus (Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 28, 1927) I kept *M. cinerea* as specifically distinct, and did not attempt to separate the birds from northwestern Argentina, only a single specimen in worn breeding plumage being available for comparison. A good series from the Andes of Tucumán since acquired by Field Museum shows, however, that the Argentine form, while to a certain extent intermediate, cannot be united to either *M. a. grisea* or *M. a. cinerea*, and I accordingly propose to name it

Muscisaxicola alpina argentina subsp. nov.

Type from Las Pavas, Prov. Tucumán, in Field Museum of Natural History, No. 57,934. Adult male. December 10, 1924. J. Mogensen.

Characters.—Similar to *M. a. cinerea* in small size and in having the wings brownish rather than blackish without any distinct pale markings, but upper parts less grayish, more like *M. a. grisea*, though rather lighter; throat and breast clouded or flammulated with pale grayish brown; inner margin to remiges more strongly tinged with pinkish buff.

Wing (four adult males) 108–110, (three adult females) 100–105; tail (male) 74–76, (female) 70–75; bill 15–16.

Range.—Puna Zone of northwestern Argentina, in provinces of Tucumán and Jujuy.

Remarks.—In coloration of the under parts this form is precisely similar to the Peruvian *M. a. grisea*, which it also closely approaches by the brownish gray tone of the dorsal surface in opposition to the clear ashy gray of *M. a. cinerea*, but it is much smaller and has the wings duller brown with hardly any of the whitish edges to the secondaries and greater wing coverts so conspicuous in *M. a. grisea*. The whitish superciliaries are as a rule narrow and restricted as in *M. a. cinerea*, though one or two examples exhibit an unmistakable tendency in the direction of *M. a. grisea*. The inner margin of the remiges is more strongly tinged with pinkish buff than in either of its allies.

The range of this form appears to be confined to the mountainous region of northwestern Argentina (prov. Tucumán and Jujuy). We have five adults in worn breeding condition and two young birds (with pinkish buff under tail coverts and similar edges to wing coverts and secondaries) taken by Juan Mogensen in December, 1924, at Las Pavas, Tucumán, and a single adult female in fresh plumage obtained by the same collector on July 5, 1918, at Aconquija. Besides, we have examined in the Paris Museum a worn adult male shot by the late G. A. Baer, on February 26, 1903, at Laguna de Pelado (alt. 5,000 meters), Prov. Tucumán.

77. *Muscisaxicola macloviana mentalis* Lafr. and d'Orb.

Muscisaxicola mentalis Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 66, 1837—Cobija, Arica, and Patagonia¹ (spec. in Paris Museum examined); d'Orbigny, p. 355, pl. 40, fig. 1—Rio Negro, Cobija, Arica; Darwin, p. 83—Chiloé, central and northern Chile; Fraser (1), p. 112—Chile; Philippi and Landbeck, Anal. Univ. Chile, 25, p. 426—Valdivia, Santiago, Arica (monog.); idem, Arch. Naturg., 31, (1), p. 85—same localities (habits, migration); Slater, Ibis, 1866, p. 58—Chile (crit.); idem (2), 1867, pp. 326, 338—Chile; E. Reed (2), p. 551—Cauquenes, Colchagua; Sharpe, p. 8—Coquimbo.

Ochthoeca chilensis Hartlaub, Naumannia, 3, p. 212, 1853—Valdivia (=juv.); Pelzeln (2), p. 76—Chile.

Muscisaxicola albimentum Lafresnaye, Rev. Mag. Zool., (2), 7, p. 61, 1855—habitat ignota (=juv.).

Ptyonura mentalis Cassin, p. 185—Chile.

Muscisaxicola macloviana Philippi (12), p. 257—all of Chile to Straits of Magellan; Landbeck (9), p. 243—foothills of the Andes; E. Reed (4), p. 201—Chile; Schalow (2), p. 715—Cavanha (Iquique), Isla dos Pajaros, Totoralillo (Coquimbo), Tumbes (Concepción), and Villarrica; Waugh and Lataste (2), p. CLXXI—San Alfonso (Quillota), Valparaíso; Albert (1), 104, p. 117—Chile (monog.); Barros (4), p. 146—Ñilahué, Curicó; idem (5), p. 183—Cordillera of Aconcagua; Gigoux, p. 86—Caldera, Atacama; Lataste (9), p. 168—Santa Teresa (Requinoa) and San Alfonso; Housse (2), p. 146—San Bernardo, Santiago; Jaffuel and Pirion, p. 107—Marga-Marga, Valparaíso; Bullock (4), p. 180—Angol, Malleco; Barros (10), p. 360—Aconcagua (winter visitor).

Muscisaxicola macloviana mentalis Páessler (3), p. 466—Coronel, Concepción (breeding habits [?]); Hellmayr, Nov. Zool., 32, p. 333, 1925—Cobija and Arica (crit.).

Range in Chile.—From the Peruvian boundary to the Straits of Magellan, probably breeding on the wooded Andean slopes in the southern section.

Material collected.—Tacna: Chacalluta (six miles north of Arica), three ♀♀ ad., one ♀ juv., June 12–14, July 16.—Antofagasta: Gatico, two ♂♂ ad., one ♂ juv., two ♀♀ ad., April 8–10.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., Aug. 25; Caldera, three ♂♂ ad., two ♀♀ ad., June 16, July 22, Aug. 31, Sept. 1–6. C. C. Sanborn and E. E. Gigoux.—Coquimbo: Romero, two ♂♂ ad., one ♀ ad., one ♀ juv., July 15–19.—Santiago: Santiago, ♂ imm., ♀ imm., June 24, 1923. C. S. Reed.—O'Higgins: near Sewell (alt. 6,000 feet), ♀ ad., May 7.—Concepción: Concepción, ♂ ad.,

¹Carmen de Patagones, Rio Negro, designated as type locality by Peters (Bull. Mus. Comp. Zool., 65, p. 322, 1923).

May 28, 1903. C. S. Reed.—Maule: Quirihue (alt. 8,000 feet), ♂ ad., three ♀ ♀ ad., May 2, 3.—Malleco: Rio Colorado (alt. 3,000 feet), ♀ juv., March 3.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ juv., Feb. 21.—Llanquihue: Casa Richards, Rio Ñirehuau, ♂ juv., Feb. 26.

Additional specimens.—Tacna: Arica, two adults, one juv. D'Orbigny.—Antofagasta: Cobija, one adult, one juv. D'Orbigny (Paris Museum).—Coquimbo: Isla dos Pajaros, Totoralillo, adult, Oct., 1893. L. Plate.—Concepción: Tumbes, ♂ imm., ♀ imm., June, 1894. L. Plate (Berlin Museum).

Schalow took great pains in demonstrating the identity of *M. mentalis*, of the South American continent, and *M. macloviana*, from the Falkland Islands, but he had no topotypical material of the latter, as specimens from Tierra del Fuego and Straits of Magellan prove to be inseparable from the Chilean ones. Thanks to the courtesy of Mr. O. Bangs I have been enabled to compare a good series from the Falklands, and these birds are so constantly larger that the recognition of *M. m. mentalis*, as advocated by Bangs and Penard,¹ seems perfectly justified. In *M. m. macloviana*, the length of the wing ranges from 112 (female) to 118 (male), against 95–105 in *M. m. mentalis*. Among the large number of continental birds examined there is only one—a male from Ushuwaia, Beagle Channel—that approaches the island form in size (wing 109).

As correctly pointed out long ago by Philippi and Landbeck, adult birds are characterized by dark brown pileum and a rufous brown chin-spot, the female differing only in smaller size and generally less rufous on the chin. Young birds lack the chin-spot, the throat and foreneck being streaked with white and pale grayish; the upper wing coverts are edged with buff, and the pileum is almost the same color as the back.

It is extremely doubtful whether the "Dormilona común" breeds anywhere within the Chilean boundaries except in the southernmost parts. Philippi and Landbeck claim, it is true, that this species in summer inhabits the middle Cordilleras in the vicinity of creeks and marshes as well as the banks of rivers at the foot of the mountains, but they were apparently unacquainted with its nesting habits and eggs, and their surmise has not been corroborated by subsequent observers. In Aconcagua, according to Barros, it occurs only on passage, first in March and April and again on its southward migration in September and October, and for its occurrence in the provinces

¹Bull. Mus. Comp. Zool., 63, p. 26, 1919.

of Santiago and Valparaiso there are likewise only a number of winter records. In the north it extends its migration along the coast to Tacna Province and even to the Peruvian littoral (Islay, Lima). In Nilahue (Curicó) and Angol (Malleco) Barros and Bullock know it merely as a winter visitor, arriving in May or June and departing again in September or early October. Páessler attributes a nest with eggs found by a native at Coronel, Concepción, to *M. m. mentalis*, but there seems little doubt that it actually pertained to *Lessonia l. rufa*.

The expedition of Field Museum did not secure any adults in breeding plumage, though the taking in February and March of full-grown young birds in the hills of Malleco and Cautin and on the Rio Ñirehuau (Llanquihue) suggests their having been reared in that neighborhood.

While on migration, these birds often gather in large flocks. Philippi and Landbeck report that from May 9 to May 11, 1859, enormous numbers totaling more than 100,000 individuals passed over Valdivia in northward direction.

M. m. mentalis is known to breed in Tierra del Fuego and on the Argentine slope of the Andes as far north as Lake Nahuel Huapi.

78. *Muscisaxicola maculirostris maculirostris* Lafr. and d'Orb.

Muscisaxicola maculirostris Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 66, 1837—La Paz, Bolivia (type in Paris Museum examined); Bibra, p. 129—Cordillera [of Santiago] (habits); Philippi and Landbeck, Anal. Univ. Chile, 25, p. 424, 1864—Cerro de San Cristobal and Las Arañas, Cordillera of Santiago, and Hacienda de la Puerta, Prov. Colchagua; idem, Arch. Naturg., 31, (1), p. 82, 1865—same localities (monog.); Selater, Ibis, 1866, p. 57—Cordilleras of Chile; idem (2), 1867, pp. 326, 338—Chile; Philippi (12), p. 258—central provinces; Landbeck (9), p. 243—Chile; E. Reed (2), p. 551—lower Cordillera of Cauquenes, Colchagua; idem (4), p. 201—Chile; Albert (1), 104, p. 127—Chile (monog.); Barros (5), p. 184—Rio Blanco, Aconcagua; idem (6), p. 35—San Bernardo, Santiago; Housse (2), p. 145—San Bernardo, Santiago; Bullock (4), p. 180—Angol, Malleco; Barros (10), p. 362—Aconcagua.

Range in Chile.—From Tacna to Cautin.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., ♀ ad., June 18, July 2.—Antofagasta: Rio Loa (alt. 7,500 feet), two ♂♂ ad., two ♀♀ ad., Sept. 12–14.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., March 23; Caldera, two ♂♂ ad., three ♀♀ ad., Oct. 17–31, 1924. E. E. Gigoux.—Coquimbo: Romero,

♂ ad., ♀ ad., July 19, 30.—Cautin: Villa Portales (3,000 to 3,300 feet), Lonquimai Valley, ♂ ad., ♂ juv., Feb. 9.

Chilean specimens appear to be inseparable from a Peruvian and Bolivian series.

In the northern parts of its range the "*Dormilona chica*" inhabits the Temperate and Puna Zones of the Andes, but it breeds also in the Cordilleras of central Chile. Bibra was the first to record it from the Cordilleras of Santiago, where Philippi and Landbeck subsequently obtained adult and young birds in January and February in "*Las Arañas*" at an elevation of 5,000 to 7,000 feet. Breeding pairs were met with by the same naturalists in December in the Cordillera of the Hacienda de la Puerta, Colchagua, at 5,000 to 6,000 feet above sea level, and Barros found them at similar altitudes in the mountain ranges of Aconcagua. The most southerly breeding record is from Villa Portales (alt. 3,000 to 3,300 feet), in the Lonquimai Valley, Prov. Cautin, where Sanborn, early in February, shot an adult male in annual molt and a full-grown young bird with incompletely developed, wholly blackish bill.

During migration and in winter these birds descend to lower altitudes and even to the seacoast. Philippi and Landbeck once met with a small flock, on October 11, on the Cerro de San Cristobal, near Santiago, about 2,400 feet above the sea, and other specimens were secured in the same province by Rev. Housse and R. Barros, between August and October, in the vicinity of San Bernardo. Bullock obtained a single example in April at Angol, Malleco, and states that it is the only one he ever saw in that neighborhood. Sanborn sent us skins from the low hills of Coquimbo and from the Copiapó Valley, while to E. E. Gigoux we are indebted for five adults collected by him in October at Caldera, Atacama.

According to Philippi and Landbeck, the "*Dormilona chica*" in the breeding season frequents brushy hill slopes, and builds its nest among rocks under low bushes.

79. *Lessonia rufa rufa* (Gmelin)

Alauda rufa Gmelin,¹ Syst. Nat., 1, (2), p. 792, 1789—based on Daubenton, Pl. Enl., 728, fig. "1" [=2] and Buffon's "*Alouette noire, à dos fauve*," Buenos Aires, coll. Commerson; Meyen, p. 84—Tollo, Rio Maipo, Chile; Kittlitz, Denkw., 1, p. 159—Viña del Mar, Valparaíso.

¹*Alauda nigri* (typ. error for *nigra*) Boddaert (Tabl. Pl. Enl., p. 46, 1783) is rendered invalid by another *Alauda nigra* of the same author on a preceding page (p. 40).

Anthus sordidus Lesson,¹ Voyage Coquille, Zool., 1, (2), livr. 15, p. 664, April, 1830—Talcaguano, Concepción Bay (=female).

Anthus viregatus Eydoux and Gervais, Mag. Zool., 6, cl. 2, p. 12, pl. 67, 1836—Chile; idem, Voy. Favorite, 5, (2), p. 38, pl. 15, 1839—Chile (=female).

Anthus rufidorsis Kittlitz, Denkwurd. Reise, 1, p. 159, 1858—new name for *Alauda rufa* Gmelin.

Muscisaxicola nigra Darwin, p. 84—Chile, north to Copiapó; Fraser (1), p. 112—Chile; Des Murs (2), p. 321—Chile; Germain, p. 311—Chile (nesting habits); Philippi (12), p. 257—Chile; Landbeck (9), p. 243—river valleys of Chile; Waugh and Lataste (1), p. LXXXV—Peñaflor, Santiago; idem (2), p. CLXXI—San Alfonso (Quillota), Valparaíso; Lataste (9), p. 168—San Alfonso and Santa Teresa (Requínoa).

Centrites rufus Bibra, p. 129—Santiago.

Silvia dorsalis Boeck, p. 501—Valdivia and Rio Pudeto, Chiloé.

Centrites niger Pelzeln (2), p. 76—Chile; Sclater (2), 1867, pp. 326, 338—Chile, north to Copiapó; E. Reed (2), p. 552—Cauquenes, Colchagua; Salvin (2), p. 423—Coquimbo; E. Reed (4), p. 201—Chile; Schalow (2), p. 714—Coquimbo; Albert (1), 104, p. 130—Chile (part, monog.); Gigoux, p. 84—Caldera, Atacama; Bullock (4), p. 180—Angol, Malleco.

Lessonia nigra Barros (4), p. 146—Ñilahué, Curicó; idem (5), p. 184—Cordillera of Aconcagua; Housse (2), p. 146—San Bernardo, Santiago; Jaffuel and Pirion, p. 107—Marga-Marga, Valparaíso.

Lessonia rufa rufa Passler (3), p. 465—Coronel (breeding habits); Wetmore (3), p. 307—Concon, Valparaíso.

Range in Chile.—From the Copiapó Valley, Atacama, to the Straits of Magellan.

Material collected.—Atacama: Ramadilla, Copiapó Valley, two ♂♂ ad., Aug. 22, 25.—Coquimbo: Romero, ♀ ad., July 30.—Concepción: Hacienda Gualpencillo, ♂ ad., March 30.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ ad., Feb. 19.—Chiloé Island: Quellon, two ♂♂ ad., ♂ (first annual), two ♀♀ ad., Dec. 24–28, Jan. 3; Rio Inio, two ♂♂ ad., two ♀♀ ad., Jan. 7–10.—Llanquihue: Casa Richards, Rio Ñirehuau, ♀ ad., Feb. 18.

Chilean birds agree with a series from Argentina. The two adult males from the Copiapó Valley are not different from those of more southern origin and show no approach to *L. r. oreas*, from the Puna Zone of the northern provinces.

The "Colejial" is widely distributed throughout Chile in the lowlands and foothills. It is reported to frequent the river valleys and also the dunes with scanty vegetation along the seashore. While all other authors agree that it does not ascend to any considerable

¹Although faulty with respect to the posterior under parts, the description cannot well refer to any other Chilean bird.

elevation in the mountains, R. Barros states that, in the Cordillera of Aconcagua, at the beginning of spring (end of September or early October) most of the birds retire to altitudes of from 6,000 to 10,000 feet, while only a few stay all the year round in the precordillera.

According to Bullock, it is resident in the Angol Valley, Malleco, though Barros lists it only as a winter visitant in Nilahue, Curicó. Pässler, on the other hand, says it is merely a summer visitor at Coronel, aggregating in flocks after the breeding season and migrating northwards for the winter (May to September). According to the same observer, it makes two broods, the first in October, and the second in the latter part of December. The nest, made of grass-leaves and rootlets and fitted inside with feathers, is placed on the ground under small bushes, and contains two or three eggs, which are buff dotted with violet and reddish brown, these markings often being crowded round the larger end.

80. *Lessonia rufa oreas* (Sclater and Salvin)

Centries oreas Sclater and Salvin, P. Z. S. Lond., 1869, p. 154—Tinta, Dept. Cuzco, Peru (types in British Museum examined); Sclater (4), 1886, p. 398—Sacaya, Tarapacá; E. Reed (4), p. 201—Tarapacá.

Muscisaxicola nigra (errore) Philippi, Ornith., 4, p. 158—Leoncito, Puna of Atacama.

Centries niger Albert (1), 104, p. 130—Chile (part, var. *oreas*).

Lessonia rufa oreas Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 36, 1927—Rio Loa and east of San Pedro, Antofagasta.

Range in Chile.—Puna Zone of the northern provinces, from Atacama to Tacna.

Material collected.—Antofagasta: Rio Loa (alt. 7,500 feet), ♂ ad., Sept. 14; twenty miles east of San Pedro (alt. 12,600 feet), ♀ ad., Oct. 6.

Additional specimens.—Tarapacá: Sacaya, ♂ ad., Feb. 6, 1886. C. Rahmer (British Museum).

Birds from northern Chile are identical with a Peruvian series. This form differs from *L. r. rufa*, in addition to its larger size, by the lighter, more cinnamon rufous back and grayish white (instead of deep black) inner web of the primaries in the male sex. The female is even more strongly differentiated, having the back but little duller rufous than the male, the under parts mostly sooty with dingy brownish edges, the under tail coverts blackish instead of buffy white, and the inner web of the primaries more whitish.

L. r. oreas represents the typical form in the northern provinces of the republic, but unlike its ally it is strictly confined to the Puna Zone, its altitudinal range extending from 7,500 to 14,000 feet. There can be little doubt that the bird recorded by Philippi s. n. *Muscisaxicola nigra* from Leoncito, in the Puna region of Atacama, refers to the present race and not to *L. r. rufa*.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|-------------------------------|----------|----------|-----------|
| Three from Tinta, Cuzco, Peru | 78,79,82 | 49,51,52 | 11,11,11½ |
| One from Salinas, Arequipa | 83 | 53 | 10½ |
| One from Rio Loa, Antofagasta | 78 | 48 | 10½ |
| One from Sacaya, Tarapacá | 80 | 49 | 11½ |
| Adult females | | | |
| Three from Tinta, Cuzco, Peru | 77,77,77 | 47,48,49 | 11,11,— |
| One from Antofagasta, Chile | 76 | 48 | 10 |

81. *Ochthoeca oenanthoides oenanthoides* (Lafr. and d'Orb.)

Fluvicola oenanthoides Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 60, 1837—La Paz, Bolivia (type in Paris Museum examined).

Ochthoeca oenanthoides oenanthoides Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 42, 1927—Putre, Tacna.

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., two ♀ ♀ ad., June 17, July 2, 4.

Compared with two males from La Paz and a female from Cochabamba, these birds are somewhat darker above, thus betraying a certain tendency in the direction of *O. o. polionota* Sclater and Salvin, from Peru, which is, however, much larger, of a much deeper rufous below, and lacks every trace of the ochraceous apical spots to the greater upper wing coverts.

Three birds from Colalao del Valle, Tucumán, and an adult male (in worn plumage) from Potosi, Bolivia, differ by decidedly paler (less sepia) back, more fulvescent rump, grayish brown instead of sooty pileum, and by having a suggestion of a second wing-bar across the tips of the median wing coverts. If separable, the name *Muscisaxicola morenoi* Bruch¹ would be available for this southern race.

O. o. oenanthoides is peculiar to the Puna Zone of western Bolivia and extreme northern Chile.

¹Rev. Mus. La Plata, 11, p. 258, 1904—Santa Catalina, Jujuy.

82. *Ochthoeca leucophrys leucometopa* Sclater and Salvin

Ochthoeca leucometopa Sclater and Salvin, P. Z. S. Lond., 1877, p. 19—"W. Peru, Prov. Cuzco (Whitely); district of Junín (Jelski)" (the type examined in the British Museum is from Chihuata, above Arequipa, southwestern Peru).

Ochthoeca leucophrys leucometopa Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 46, 1927—Putre, Tacna.

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., two ♀ ad., June 19, July 3, 7.

Additional specimens.—Tacna: Palca (alt. 10,000 feet), ♀ ad., Oct. 20, 1902. Otto Garlepp (Berlepsch Collection, Frankfort Museum).

These specimens are identical with the type and a series from southern Peru. Like the preceding species, this is an inhabitant of the Temperate Zone. Closely allied races occur in Bolivia, northwestern Argentina, and northern Peru.

[*Yetapa risora* (Vieillot)—included by Gay (Hist. fis. pol. Chile, Zool., 1, p. 339, 1847) under the name *Alecturus guyrayetupa* in the Chilean fauna—ranges over northern Argentina, Uruguay, Paraguay, and the adjacent parts of Brazil. It has never been found in Chile.]

83. *Hymenops¹ perspicillata andina* (Ridgway)

Lichenops perspicillatus, ♂ *andinus* Ridgway, Proc. U. S. Nat. Mus., 1, "1878," p. 483, May 22, 1879—Chile "to New Granada" (errore).

Hymenops nyctitarius Lesson,² Voy. Coquille, Zool., 1, livr. 6, p. 239, 1828—Concepción.

Lichenops perspicillata (*us*) Fraser (1), p. 110—Chile; Des Murs (2), p. 337—Chile; Pelzeln (2), p. 77—Chile; Philippi (12), p. 260—Chile; Landbeck (9), p. 248—Chile; E. Reed (2), p. 550—Cauquenes, Colchagua; Salvin (2), 1883, p. 423—Coquimbo; E. Reed (4), p. 201—Chile; Lane, p. 31—Hacienda Mansel (Santiago), Rio Bueno and Rio Pilmaiquen, Valdivia (habits); Schalow (2), p. 719—Punta Teatinos, near La Serena, Coquimbo;

¹*Hymenops* Lesson (Voyage Coquille, Zool., 1, livr. 6, p. 239, March 22, 1828) takes precedence over *Lichenops* Sundevall (Vetenskaps Akad. Handl. for 1835, p. 88, 1836), both having the same basis, viz. "Le Clignot," described by Buffon from Commerson's manuscript. *Hymenops nyctitarius*, quoted by Lesson from Commerson's unpublished drawings, becomes valid under the rules by his reference to "Le Clignot du Paraguay" [=Montevideo]. The name has been completely lost sight of, and is not even mentioned by Sherborn.

²Being exclusively based on "Le Clignot" from Montevideo, this name is, of course, inapplicable to the Chilean form.

Waugh and Lataste (1), p. LXXXVI—Rio Mapocho, Peñafior, Santiago; idem (3), p. LIX—Peñafior, Santiago; Albert (1), 104, p. 107—Chile (monog.); Barros (4), p. 145—Ñilahue, Curicó; Housse (2), p. 145—San Bernardo, Santiago; Bullock (4), p. 179—Angol, Malleco.

Muscicapa nigricans (not of Vieillot) Bibra, p. 129—Valparaíso and Valdivia.

Lichenops erythropterus (not of Gould) Cassin, p. 185—Chile.

Lichenops erythropterus Germain, p. 311—Chile (breeding habits).

Lichenops perspicillata andina Pässler (3), p. 464—Coronel and Talcahuano (Concepción, Los Vilos (Aconcagua), and La Serena, Coquimbo (breeding habits); Hellmayr, Nov. Zool., 32, p. 315, 1925—Chile (crit.).

Range in Chile.—Lowlands of the central provinces, from Coquimbo to Valdivia.

Material collected.—Valparaíso: Limache (alt. 500 feet), ♂ ad., Dec. 2, 1924. J. A. Wolffsohn.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ ad., three ♂♂ juv., ♀ ad., ♀ juv., Feb. 18–20.

Additional specimens.—Chile (unspecified): seven ♂♂ ad., three ♀♀ ad., no dates. F. Leybold and E. C. Reed (Paris Museum, Munich Museum).

When compared with a dozen from Uruguay and others from eastern Argentina (Corrientes and Buenos Aires), adult males from Chile are easily enough separated by larger size, by having the black at the basal portion of the five outer primaries extended on to the sinuation of the quills, resulting in a considerable restriction of the white area, and by the generally longer dusky apical spots of the wings. It must be admitted, however, that even in Uruguay certain individuals have very nearly as much black at the base of the outer primaries as the Chilean average. Birds from eastern Bolivia and western Argentina are so variously intermediate—even in size—between *H. p. perspicillata* and *H. p. andina*, that it is really a matter of personal preference whether to refer them to one form rather than to the other.¹

The "Runrun" ranges over the lowlands of the greater part of central and southern Chile. The northern limit of its distribution is around Coquimbo, where specimens were obtained by Markham, Plate, and Pässler, while in the south the Valdivia-Llanquihue boundary seems to mark the farthest point. Lane found it fairly common on the Rio Pilmaiquen, but did not hear of it in Chiloé or at Puerto Montt.

These birds frequent wet places in the vicinity of rivers and lagoons, but are said to be nowhere abundant. They are mostly

¹See Hellmayr, Nov. Zool., 32, pp. 315–316, 1925, and Laubmann, Wiss. Ergebn. Gran Chaco Exp., Vögel, pp. 211–212, 1930.

found in the plains and avoid the mountains, Lake Gualletué in the hills of Cautin at an altitude of 3,800 feet being the highest point whence specimens have been examined. They feed on insects, which they frequently capture on the wing, making a clicking noise. Lane often observed them alight on the ground in adjacent fields or grass-banks to search for food. The nest is placed a short distance above the ground in bushes along the edge of the water and contains two or three eggs, which are white or buff sparingly flecked and dotted with rufous and blackish brown. In the vicinity of Coronel they have two broods, the first at the end of October or early in November, the second about the middle of January (Pässler).

84. *Pyrocephalus rubinus obscurus* Gould

Pyrocephalus obscurus Gould in Darwin, Zool. Beagle, 3, Part 9, p. 45, 1839—Lima, Peru (=melanistic variety).

Muscipeta coronata (not of Gmelin) Lafresnaye and d'Orbigny, Syn. Av., 1, 1837, p. 47—Arica.

Suiriri coronata d'Orbigny, p. 336—Tacna, Arica.

Pyrocephalus rubineus (not *Muscicapa rubinus* Boddaert) Schalow (2), p. 712—"Capillão, Chile."¹

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Chacalluta, six miles north of Arica, three ♂♂ ad., ♀ ad., June 12–14, July 16.

All of the specimens are in the normal (*heterurus*) plumage, the males with red crests and under parts, the female with white throat, streaked breast, and rose-red abdomen. It would be interesting to know if the melanistic variant (*obscurus*), so common on the Peruvian coast between Lima and Arequipa, also occurs in Tacna Province.

The Pacific Scarlet Flycatcher was first met with on Chilean territory by d'Orbigny at Tacna and Arica, where the natives call it "Saca-tu-real," and nearly a century later Sanborn found it again on the coast north of Arica.

It is widely diffused on the Pacific side of northern South America, reaching the southern limit of its range in the extreme north of Chile.

85. *Muscigralla brevicauda* Lafresnaye and d'Orbigny

Muscigralla brevicauda Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 61, 1837—Tacna, Peru (type in Paris Museum examined);

¹I have not been able to find this locality. No place of that name is listed in L. R. Patron's "Diccionario Jeográfico de Chile," Santiago, 1924.

d'Orbigny, p. 354, pl. 39, fig. 1—Tacna; Lesson, Oeuvr. Buffon, éd. Lévêque, 20, (Descr. Mammif. & Ois.), p. 299, 1847—Chile; Des Murs (2), p. 338—Tacna (ex d'Orbigny); Hellmayr, Nov. Zool., 32, p. 324, 1925—Tacna (crit.).

Range in Chile.—Arid littoral of the extreme north, in province of Tacna.

Material examined.—Tacna: one (unsexed) adult, Peru [= Tacna], Jan., 1831. D'Orbigny (type of species; Paris Museum).

The type was compared and found identical with a series from Peru. The Short-tailed Ground-tyrant is characteristic of the Peruvian littoral, ranging north to southern Ecuador and stretching into the extreme north of Chile, where a single example was secured by d'Orbigny, the discoverer of the species. The French naturalist tells us that he met with this peculiar bird in cultivated fields and hedges in the vicinity of Tacna. He describes it as a very active creature, moving around rapidly in search of its food, which consists exclusively of insects.

86. *Pseudocolopteryx flaviventris* (Lafresnaye and d'Orbigny)

Alecturus flaviventris Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 55, 1837—Corrientes (type in Paris Museum examined).

Arundinicola citreola Landbeck, Arch. Naturg., 30, (1), p. 58, 1864—Mapocho Valley, above Santiago, and "Elalmahue," Colchagua (habits); idem, Anal. Univ. Chile, 24, No. 4, p. 338, April, 1864—same localities; Sclater (2), 1867, p. 326—Chile; Philippi (12), p. 262—Santiago; Landbeck (9), p. 249—Santiago and "Elmalmahue," Colchagua (nest and eggs); Philippi (24), p. 50, pl. 27, fig. 1—Chile.

Hapalocercus citreolus Sclater (2), 1867, p. 338—Chile.

Hapalocercus flaviventris E. Reed (2), p. 552—southern bank of Rio Cachapoal, Colchagua; idem (4), p. 201—central provinces; Albert (1), 104, p. 267—Chile (monog.); Passler (2), p. 28—Coronel (nest and eggs descr.); Bullock (4), p. 180—Angol, Malleco.

Range in Chile.—From Santiago to Valdivia.

Material collected.—Valdivia: Ríñihue, ♂ ad., March 5.

Additional specimens.—Santiago: Santiago, ♂ ad. L. Landbeck (authentic specimen of *A. citreola*; Tring Museum).—"Chile" (unspecified): two (unsexed) adults, one immature. E. C. Reed (Tring Museum and Berlepsch Collection, Frankfort Museum).

I fully agree with Wetmore¹ that the (on average) larger size of west Argentine and Chilean birds is too insignificant a variation to warrant the recognition of a separate race (*P. flaviventris citreolus*).

¹Bull. U. S. Nat. Mus., 133, p. 317, 1926.

Very little is known regarding the Chilean range of this inconspicuous bird. Landbeck first discovered it in the valley of the Rio Mapocho, Prov. Santiago, and afterwards secured specimens at "Elalmahue," in the coast district of Colchagua. Edwyn Reed says it is not uncommon on the south bank of the Rio Cachapoal, Colchagua, and Pässler found it nesting at Coronel, Concepción, while Bullock recorded it from Angol, Malleco. Sanborn obtained a single example on the shore of Lake Ríñihue, Valdivia.¹

This bird lives in the reeds, frequently in company of *Tachuris r. rubrigastra* and *Phleocryptes m. melanops*, and owing to its retiring habits it is doubtless often overlooked. It breeds in December and builds a deep elaborate nest of fine dry grass, thistledown, webs, feathers, and other soft materials, usually in the fork of a weed or among reeds three or five feet above the ground. The cream-colored eggs are four in number. Its food is said to consist almost exclusively of Coccinella.

The Reed-warbling Tyrant is also widely distributed in northern Argentina and Uruguay.

[*Pseudocolopteryx sclateri* (Oustalet), though erroneously described from "Chile," is found only in eastern Argentina and other parts of eastern South America.]

87. *Tachuris rubrigastra rubrigastra* (Vieillot)

Sylvia rubrigastra (typog. err.) Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 11, p. 277, 1817—based on Azara, No. 161, Paraguay and Buenos Aires.

Regulus byronensis Pidgeon in Griffith, Anim. Kingd., 7, [=Aves, 2], plate to p. 42, May, 1828—Chile.

Tyrannulus vieilloti Leadbeater, Trans. Linn. Soc. Lond., 16, Part 1, p. 88, 1829—Chile.

Cyanotis omnicolor Darwin, p. 86—Santiago; Fraser (1), p. 112—Chile; Yarrell, p. 53—Chile (egg descr.); Cassin, p. 186—Chile; Germain, p. 310—Santiago Province (nesting habits).

Regulus omnicolor Des Murs (2), p. 319, pl. 4—Coquimbo, Santiago, Chiloé (habits); Boeck, p. 501—Las Cruces and Rio Calle-Calle, Valdivia; Philippi (12), p. 257—Chile; Landbeck (9), p. 242—Chile (habits); Lataste (5), p. LXII—Junquillos, Ñuble.

Cyanotis azarae Pelzeln (2), p. 64—Chile; Sclater (2), 1867, pp. 327, 338—Chile; E. Reed (2), p. 552—Cauquenes, Colchagua; Salvin (2), p. 423—Coquimbo; Allen, p. 85—Valparaiso; E. Reed (4), p. 201—Chile; Lane, p. 33—Hospital (Santiago), Coronel, Valdivia, south to Chiloé; Schalow

¹E. Reed's surmise that it migrates to Bolivia in the fall is wholly unfounded.

(2), p. 713—Chile (eggs descr.); Albert (1), 104, p. 277—Chile; Gigoux, p. 83—Caldera, Atacama; Bullock (4), p. 182—Angol, Malleco.

Cyanotis rubrigastra Housse (2), p. 146—San Bernardo, Santiago; Jaffuel and Pirion, p. 108—Marga-Marga, Valparaiso.

Tachuris r. rubrigaster Passler (3), p. 467—Coronel (breeding habits).

Tachuris r. rubrigastra Wetmore (3), p. 325—Concon, Valparaiso.

Range in Chile.—From Coquimbo to Puerto Montt, Llanquihue; accidental in Atacama (one record from Caldera).

Material collected.—Concepción: Hacienda Gualpencillo, ♀ ad., April 15.

Additional specimens.—Concepción: Concepción, ♀ ad., ♂ juv., May 15, Jan. 16, 1903. C. S. Reed (Field Museum).—Valdivia: Valdivia, two ♂♂ ad., ♀ ad., 1897. A. von Lossberg (Munich Museum).—Llanquihue: Desagüe, near Puerto Montt, two ♂♂ ad., Sept. 16–21, 1895. G. Hopke (Munich Museum).

Chilean birds appear to be inseparable from an Argentine (Buenos Aires) series.

The “Siete colores” ranges over the lowlands of central and southern Chile, and its breeding territory extends at least as far north as Santiago, where its nesting has been recorded long ago by Germain. Gigoux records the taking of a single specimen, doubtless a straggler, in a garden of Caldera, Atacama, and Salvin lists one shot by Markham at Coquimbo. According to Lane, it is fairly numerous throughout central Chile, though confined to suitable localities. While resident from Concepción northwards, it is said to be a summer migrant farther south. Bullock lists it as common in the Angol Valley, Malleco, and Lane found it in Valdivia, where specimens were also procured by Boeck and A. von Lossberg.

In Chiloé Island it is stated to be scarce, but appears to be more plentiful in Llanquihue. The late Gustav Hopke collected a good many examples at Desagüe, not far from Puerto Montt, although Lane never saw it in that section.

These birds live exclusively in the reed-belt along rivers and around lagoons, and are hardly ever seen in the open. They are insectivorous. Their usual call-note is a metallic clicking or a sharp chirping. The nest, “a marvel of skill and beauty, is as a rule attached to a single polished rush, two or three feet above the water and about the middle of the stem. It is cup-shaped inside, and about four inches long, circular at the top, but compressed at the lower extremity, and ending in a sharp point. It is composed entirely of soft bits of dry yellowish rush, cemented together with gum so

smoothly that it looks as if made in a mould" (Hudson). In the province of Santiago they lay in September or October (Germain); in the vicinity of Coronel, according to Pässler, the first brood takes place about mid-October, the second towards the end of December. The eggs, two or three in number, are dull creamy-white or buff, often with a ring of darker color around the larger end.

88. *Spizitornis*¹ *parulus parulus* (Kittlitz)

Muscicapa parulus Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 190, pl. 9, 1830—Concepción and Valparaíso, Chile; idem, Denkwurd., 1, pp. 122, 135—same localities (type from Valparaíso in Leningrad Museum, cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 17, 1921).

Sylvia bloxami J. E. Gray, Zool. Misc., 1, p. 11, 1831—Chile.

Vermivora elegans Lesson, L'Institut, 2, No. 72, p. 317, 1834—"le Chile méridional"; idem in Bougainville, Journ. Navig. Thétis, 2, p. 323, 1837—southern Chile.

Regulus plumulosus Peale, U. S. Expl. Exp., 8, p. 94, 1848—Valparaíso.

Culicivora parulus Lafresnaye and d'Orbigny, Syn. Av., 1, p. 57—Chile; d'Orbigny, p. 332—part, Valparaíso; Des Murs (2), p. 343—Chile; Boeck, p. 503—Valdivia; Germain, p. 311—Chile (nesting habits); Philippi (12), p. 261—Chile; Landbeck (9), p. 250—Chile (habits); Lataste (4), p. XXXIV—Caillihue (Vichuquen), Curicó; Waugh and Lataste (1), p. LXXXVI—Peñaflor, Santiago; idem (2), p. CLXXI—San Alfonso (Quilota), Valparaíso; idem (9), p. 169—Santa Teresa (Requinoa).

Serpophaga parulus Darwin, p. 49—part, central Chile; Fraser (1), p. 110—Chile.

Muscicapa parula Bibra, p. 129—Valparaíso.

Euscarthmus parulus Hartlaub (3), p. 213—Valdivia; Pelzeln (2), p. 79—Chile.

Anaeretes parulus Sclater (2), 1867, pp. 327, 338—Chile; E. Reed (2), p. 553—Cauquenes, Colchagua; Salvin (2), 1883, p. 423—Talcaguano; Allen, p. 85—Valparaíso; E. Reed (4), p. 201—central provinces; Lane, p. 32—Hospital (Santiago), Coronel, and Maquegua (Arauco); Schalow (2), p. 713—Tumbes, Concepción (nest descr.); Albert (1), 104, p. 273—Chile (part, excl. Mas A Tierra); Barros (4), p. 146—Nahue, Curicó; idem (5), p. 185—Cordillera of Aconcagua; Housse (1), p. 48—Isla La Mocha; idem (2), p. 146—San Bernardo, Santiago; Jaffuel and Pirion, p. 108—Marga-Marga, Valparaíso; Bullock (3), p. 124—Nahuelbuta, Malleco; idem (4), p. 181—Angol, Malleco.

¹It has recently been claimed that *Anaeretes* Dejean (Cat. Coleopt., 3rd ed., p. 181, July, 1836) being a nomen nudum does not invalidate *Anaeretes* Reichenbach (for which *Spizitornis* Oberholser was proposed as a substitute). However, I am assured by entomologists that *Anaeretes* is perfectly identifiable as a synonym of *Dichelonyx* Harris (fam. Scarabaeidae) through Dejean's referring to it *elongata* Say and *elongatula* Schönh., two well-known species of beetle.

Anaeretes parulus parulus Passler (3), p. 466—Coronel (breeding habits).

Spizitornis parulus Bullock, El Hornero, 3, p. 98 (nest).

Spizitornis parulus parulus Hellmayr, Nov. Zool., 32, p. 192, 1925—Valparaíso; Wetmore (3), pp. 322, 324—Concon, Valparaíso.

Range in Chile.—Central and southern provinces from the Copiapó Valley, Atacama, to Valdivia and Chiloé Island.

Material collected.—Atacama: Ramadilla (Copiapó Valley), ♀ ad., Aug. 23; Domeyko, ♂ ad., Aug. 12.—Aconcagua: Rio Blanco (alt. 5,000 feet), ♂ ad., July 20, 1926. R. Barros.—Santiago: San José de Maipo (alt. 3,000 feet), ♂ ad., Dec. 18.—Concepción: Hacienda Gualpencillo, two ♀ ♀ ad., March 27, April 13.—Valdivia: Ríñihue, ♂ ad., March 5; Máfil, ♂ ad., ♂ juv., Feb. 15, 26.—Chiloé Island: Quellon, three ♂ ♂, two ♀ ♀ ad., ♀ juv., Dec. 20—Jan. 5.

Additional specimens.—Santiago: Santiago, ♂ ad., June, 1872. E. C. Reed (Field Museum).—Valparaíso: Valparaíso, adult, 1830. D'Orbigny (Paris Museum).—Valdivia: Valdivia, three ♂ ♂ ad., two (unsexed) adults, Sept., 1897. A. von Lossberg (Munich Museum and Berlepsch Collection, Frankfurt Museum).

Birds from Valdivia and Chiloé appear to be inseparable from typical *parulus* as represented by a series from Concepción and northwards, though they possibly have the chest more profusely streaked with blackish. In the Straits of Magellan and Tierra del Fuego the present form is replaced by a darker race, *S. p. lippus* Wetmore, which is autoptically unknown to me, and on the island of Mas A Tierra, Juan Fernandez group, by *S. p. fernandezianus*, distinguished by much larger dimensions, longer crest, darker, less olivaceous back, and white instead of yellowish under parts with much wider black streaks, etc.

The "Torito" is widely diffused through the wooded parts of Chile. It is chiefly a lowland species, whose altitudinal range, according to Barros, does not reach beyond an elevation of 6,000 feet.¹ Barros lists it as a resident in Aconcagua, and Jaffuel and Pirion found it throughout the year in Valparaíso Province. Sanborn collected two specimens in Atacama in August, but they might have been migratory visitors. It is reported to be more plentiful in the forested southern provinces, at Coronel, in Valdivia, and on Chiloé Island. Lane describes its habits as similar to those of the tits. It is generally arboreal, though it often traverses the shrubs

¹Albert's statement that it ascends in the mountains to 10,000 feet and more is clearly a mistake.

very low down, and frequently descends to the ground to examine roots, fallen timber, etc., in search of its food, which consists largely of insects, but also includes various seeds, particularly in winter. Except when breeding, the birds keep in troops. Their nest, which they place in bushes and shrubs, is carefully made of dry grass-leaves, lichens, rootlets, and thistledown, and fitted inside with plenty of feathers. The eggs, three or four in number, are dull buffy white. Germain indicates September to November as its breeding season. According to Pässler, they have two broods, one about mid-October, and the second in the latter half of December.

89. *Spizitornis flavirostris arequipae* Chapman

Spizitornis flavirostris arequipae Chapman, Amer. Mus. Novit., 231, p. 4, 1926—Arequipa, Peru.

Spizitornis flavirostris flavirostris Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 374, 1927—Putre, Tacna.

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), two ♂♂ ad., July 3, 1924.

These skins agree with others from Arequipa and above Lima (Matucana and Surco).

S. f. arequipae is a very poor form and hardly deserves recognition. Compared with a series of twelve from Bolivia¹ and Tucumán, seven specimens from the coast range of Peru and Tacna have the back on average more distinctly streaked, while the black stripes below are generally less pronounced. The wings are perhaps slightly shorter. The ground-color of the dorsal surface is too variable to be of taxonomic value, grayish-backed and brownish-backed specimens being represented in both series.

The wing measures in *S. f. flavirostris* from Bolivia: 48, 49, 51, 51, 52, 52, 53; in *S. f. arequipae*, 46, 46, 48, 48, 49, 49, 51½.

This is a Temperate Zone species of wide distribution in the Andes of Peru and Bolivia, just stretching into the extreme north of Chile.

90. *Spizitornis reguloides reguloides* (Lafresnaye and d'Orbigny)

Culicivora reguloides Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 57, 1837—Tacna (type in Paris Museum examined); d'Orbigny, p. 332, pl. 37, fig. 1—near the city of Tacna.

Spizitornis reguloides Hellmayr, Nov. Zool., 32, p. 194, 1925—Tacna (crit.).

¹Tiltilo, Dept. La Paz (including the type of *A. flavirostris*) 2, Sucre 2, Cabrero 1, Cochabamba 1, Tapacari 1.

Range in Chile.—Extreme northern section, in province of Tacna.

Material examined.—Tacna: city of Tacna, ♂ ad., type of species. D'Orbigny (Paris Museum).

The type agrees with specimens from Arequipa and Moquegua except that the color of the belly has faded until it is nearly white.

In spite of its close similarity, *S. reguloides* apparently is specifically different from *S. flavirostris*, the very much larger bill with the wholly pale mandible being its principal character. Besides, the upper parts are black, streaked with white on the back, and the white in the crest is much more extensive, while adult males have the forehead, sides of the head, and throat uniform black.

S. r. reguloides is peculiar to southwestern Peru and the adjacent province of Tacna, while farther north, from Ica to Ancachs, it is replaced by the closely allied *S. r. albiventris* Chapman, with white instead of pale yellow abdomen. This species inhabits the littoral and arid lower slopes of the Andes, whereas *S. flavirostris* lives higher up in the Temperate Zone. We have, however, representatives of both species taken at Matucana, above Lima, at an altitude of 8,000 feet.

D'Orbigny states that he found these birds in rather small numbers in the apple and olive orchards around the city of Tacna.

[*Muscicapa cinereola* (Cuvier MS.) Des Murs (in Gay, Hist. fis. pol. Chile, Zool., 1, p. 342, 1847), described from a specimen sent from Brazil by Freycinet (in command of the "Uranie" and "Physicienne") to the Paris Museum, is obviously the same as *Serpophaga nigricans* (Vieillot). Although we have not been able to find the type in the French National Collection, the description fits that bird very well with the exception of the term "nigro-cinerea" for the color of the upper parts. Des Murs is, however, entirely mistaken in asserting that the species has also been found by various travelers in Chile.

In this connection it may also be mentioned that Strickland (Ann. Mag. Nat. Hist., 13, p. 414, 1844) erroneously recorded *Serpophaga cinerea* (Tschudi) from Chile, another species of the genus that has never been met with in that country.]

91. *Colorhamphus parvirostris* (Darwin)

Myiobius parvirostris Darwin, Zool. Beagle, 3, Part 9, p. 48, July, 1839—Tierra del Fuego, "banks of the La Plata" (errore), and Valparaiso, Chile; Bridges, 1841, p. 110—near Valparaiso.

Myobius parvirostris Des Murs (2), p. 341—Chile (ex Darwin); Philippi (12), p. 261—the whole of Chile to the Magellan Territory; Landbeck (9), p. 249—Cordilleras of Chile.

Tyrannula parvirostris Hartlaub (3), 1853, p. 212—Valdivia.

Serpophaga parvirostris Sclater (2), 1867, pp. 327, 338—Chile; E. Reed (2), p. 552—Cauquenes, Colchagua; Sclater, Cat. B. Brit. Mus., 14, p. 105, 1888—Santiago and Valparaíso; E. Reed (4), p. 201—Chile; Schalow (2), p. 714—Tumbes, Concepción; Albert (1), 104, p. 270—Chile (monog.); Bullock (4), p. 181—Angol, Malleco.

Elainea murina Philippi, Anal. Univ. Chile, 91, p. 668, 1895—Santiago; idem (24), p. 54, pl. 26, fig. 2—Santiago (=adult); Jaffuel and Pirion, p. 108—Marga-Marga, Valparaíso; (?) Passler (3), p. 469—Coronel (breeding ?).

Taenioptera flavida (not *Pepoaza flavida* Lesson) Lataste (5), p. LXII—Llohué (Itata), Maule; Waugh and Lataste (2), p. CLXXI—San Alfonso (Quillota), Valparaíso (spec. examined).

Muscicapa parvirostris Philippi, Anal. Mus. Nac. Santiago, Zool., 15, p. 55, pl. 24, figs. 1, 1a, 1902—Santiago and Valdivia (=juv.).

Colorhamphus parvirostris Barros (4), p. 146—Nilahue, Curicó; idem (5), p. 185—Cordillera of Aconcagua; Housse (2), 146—San Bernardo, Santiago; Wetmore (3), p. 321—near Concon, Valparaíso.

Range in Chile.—From Aconcagua to the Straits of Magellan.

Material collected.—O'Higgins: Baños de Cauquenes, ♀ ad., May 3.—Chiloé Island: Quellon, ♂ juv., Dec. 24.

Additional specimens.—Aconcagua: Los Andes (alt. 1,550 meters), ♂ ad., July 13, 1925; Rio Blanco (alt. 1,540 meters), ♂ ad., Aug. 15, 1924. R. Barros (Field Museum).—Valparaíso: San Alfonso (Quillota),¹ three ♂♂ ad., one ♀ ad., June 21, 1894. F. Lataste (British Museum and Paris Museum).—Colchagua: Santa Teresa (Requínoa),¹ ♂ ad., June 25, 1895. F. Lataste (British Museum).—Cautin: Maquehue, Temuco, ♂ ad., June 21, 1907. D. S. Bullock (British Museum).—"Chile" (unspecified): ♀ ad., Sept., 1872. E. C. Reed (Field Museum); three adults (not sexed), 1843. C. Gay (Paris Museum).

Chilean specimens appear to be identical with others from Tierra del Fuego. Young birds are much more rufous above, lack the dusky or grayish cap, and are darker below with the abdomen more ochraceous.

Philippi described the adult plumage as a new species under the name of *Elainea murina*, and figured the young bird as "*Muscicapa*" *parvirostris*. Lataste identified this little flycatcher with Lesson's *Pepoaza flavida*, but the original description indicates quite a different bird, having the upper parts yellowish brown, the throat

¹ Marked "*Taenioptera flavida*" by F. Lataste.

and breast gray, and the foreneck white streaked with brown. None of these characters fits the present species or any other Chilean bird with which we are acquainted.

The "Viudita" has a rather extensive range. It is known to breed in Tierra del Fuego, Hoste Island, and along the Straits of Magellan. Plate, as recorded by Schalow, secured specimens in March at Lapataia, Beagle Channel, and in the vicinity of the False Cape Horn, while the Princeton Patagonian Expedition, as we are told by Stone,¹ collected adult and young birds in January and February at Punta Arenas. W. H. Osgood, of Field Museum, shot a full-grown young male on Christmas Eve at Quellon, which suggests its breeding on Chiloé Island. In the central provinces the "Viudita" appears to breed only in the mountains, repairing to the lowlands on the approach of the cold season. According to Barros, it arrives in the Cordillera of Aconcagua in April and May, and leaves again for the south in the first half of September. Its altitudinal range during the nesting season extends up to over 6,000 feet. In winter it is frequently met with in the foothills and even near the coast. There are various winter records from Valparaiso (Marga-Marga, June; Concon, April; San Alfonso, June), Santiago (San Bernardo, May), O'Higgins (Baños de Cauquenes, May), Curicó (Ñilahue, April to September), Maule (Itata, April), Concepción (Tumbes, June), and Cautin (Temuco, June). At Angol, Malleco, it is rather rare, according to Bullock, who doubts that it breeds in the valley. It is also extremely unlikely that the bird found breeding by Pässler at Coronel and identified from sight as *E. murina* pertained to the present species.

Albert's supposition that the "Viudita" migrates northward and spends the winter in Bolivia is wholly unfounded. As a matter of fact, this flycatcher has not yet been encountered in that country.

92. *Elaenia albiceps chilensis* Hellmayr

Elaenia albiceps chilensis Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 5, p. 413, 1927—Curacautin, Malleco, Chile.

Myiobius albiceps (not *Muscipeta albiceps* Lafresnaye and d'Orbigny) Darwin, p. 47—Chonos Archipelago and near Valparaiso; Fraser (1), p. 110—Chile (habits); Des Murs (2), p. 340—Chile, south to Valdivia; Boeck, p. 503—Valdivia; Germain, p. 311—Santiago (breeding habits); Philippi (12), p. 261—Chile; Landbeck (9), p. 249—Chile (habits); Waugh and Lataste (1), p. LXXXVI—Peñaflor, Santiago; Gigoux, p. 85—Caldera, Atacama.

¹Rep. Princeton Univ. Exped. Patagonia, 2, (2), Part 5, p. 801, 1923.

Elainia modesta (not of Tschudi) Sclater (2), 1867, pp. 327, 338—Chile (crit.).

Elania albiceps E. Reed (2), p. 552—Cauquenes, Colchagua.

Elainea albiceps E. Reed (4), p. 201—Chile; Lane, p. 33—part, Hacienda Mansel (Santiago), Corral and Rio Bueno, Valdivia (habits); Schalow (2), p. 712—La Serena (Coquimbo), Santiago, and Llanquihue; Albert (1), 104, p. 281—Chile (monog.); Jaffuel and Pirion, p. 108—Marga-Marga, Valparaiso; Bullock (4), p. 182—Angol, Malleco.

Elaenia albiceps Berlepsch, Ornis, 14, p. 403, 1907—part, Chile; Barros (4), p. 146—Ñilahue, Curicó; idem (5), p. 185—Cordillera of Aconcagua; Housse (2), p. 146—San Bernardo, Santiago; Bullock (3), p. 124—Nahuelbuta, Malleco.

Elaenia albiceps albiceps Pässler (3), p. 468—Coronel (breeding habits).

Range in Chile.—From Atacama (Caldera) south to the Straits of Magellan.

Material collected.—Santiago: San José de Maipo (alt. 3,000 feet), two ♂♂ ad., Dec. 17, 18.—Malleco: Curacautin, ♂ ad. (type), ♀ ad., Jan. 9, 10; Tolguaca (alt. 3,500 feet), ♂ ad., Jan. 19.—Cautin: Villa Portales (alt. 3,300 feet), ♀ juv., Feb. 28.—Valdivia: Máfil, ♀ ad., six ♂♂ juv., Feb. 15–27.—Chiloé Island: Quellon, seven ♂♂ ad., three ♀♀ ad., Dec. 24–Jan. 5.—Llanquihue: Casa Richards, Rio Ñirehuau, ♀ juv., March 1.

Additional specimens.—Concepción: Concepción, two ♀♀ ad., Jan. 21, Feb. 3, 1903. C. S. Reed (Tring Museum).

Chilean specimens of this flycatcher, which had generally been referred to *E. a. albiceps*, prove, on comparison with an ample series from Bolivia, to be easily separable by smaller size, much slenderer bill, more extensive, pure white (not yellowish or buffy) vertical patch, and more greenish upper parts. They are much nearer *E. a. modesta*, from Peru, but have the white crown-patch more extensive with only the extreme tips (instead of the apical half) of the feathers dusky, and the back of a duller tone; besides, there are always two very distinct whitish bands across the wing formed by the tips of the median and greater wing coverts. We have, accordingly, distinguished the Chilean race under the name of *E. a. chilensis*.

Birds from various localities between Santiago and Chiloé do not exhibit any racial variation. More adequate material may show that the inhabitants of Argentina, which we have provisionally referred to *E. a. chilensis*, are not exactly the same, but the question cannot be settled with the few specimens at present available.

The "Fio-fio" is generally distributed throughout Chile from the Straits of Magellan to Caldera, which marks the northern limit of its range. It prefers the plains and lowlands, and does not penetrate

the mountains much beyond an altitude of 6,500 or 7,000 feet. The "Fio-fio" is a migratory bird, which arrives on its breeding grounds in the latter half of September or in October, and departs again in February and March. Such has been found to be the case in Aconcagua (Barros), San Bernardo, Santiago (Housse), Curicó (Barros), Malleco (Bullock), and Valdivia (Lane). Where the birds spend the winter is a matter of conjecture. The supposition that they migrate northwards does not seem to be well-founded, since *E. a. chilensis* has not been met with north of Caldera, while Bolivia and Peru are tenanted by nearly related—apparently resident—forms.

These flycatchers frequent forests, gardens, bushes, and shrubs of any sort, and are said to possess a very characteristic whistling call-note. The song is a somewhat variable ditty, more amusing than harmonious, being a series of whistles and squeaking sounds uttered promiscuously, though with energy.

Their food consists mostly of insects which they often capture on the wing, but they also eat berries and seeds. The bird is held in bad repute by the gardeners on account of its picking off the buds of fruit trees. The breeding period lasts from November to February. The nest is made of dry grass-stems, leaves, moss, and lichens, and lined inside with thistledown and feathers. It is placed in a low thick bush or shrub, two to four feet from the ground. The two or three eggs are white or buff, sparingly marked with rufous and reddish brown dots and spots.

93. *Elaenia albiceps modesta* Tschudi

Elaenia modesta Tschudi, Arch. Naturg., 10, (1), p. 274, 1844—Peru; idem, Unters. Faun. Peru., Aves, p. 159, 1846—coast region of Peru, viz. Lima (type in Neuchâtel Museum examined).

Muscipeta albiceps Lafresnaye and d'Orbigny, Syn. Av., 1, p. 47, 1837—part, Tacna; d'Orbigny, p. 319—part, Tacna.

Elainea albiceps Selater (6), 1891, p. 134—Pica, Tarapacá; Lane, p. 33—part, Pica.

Elaenia albiceps albiceps Hellmayr, Nov. Zool., 32, p. 28, 1925—part, No. 4, Tacna.

Range in Chile.—Extreme northern provinces, in Tarapacá and Tacna.

Material examined.—Tacna: Tacna, juv., Jan., 1831. D'Orbigny (Paris Museum).—Tarapacá: Pica, ♀ ad., one (unsexed) adult, Feb. 28, 1890. A. A. Lane (British Museum).

Although one of the specimens is young and the two others are in excessively worn breeding plumage, I have little doubt that they

are referable to the Peruvian race, such a distribution being well in keeping with what we know about the ranges of many other species of the Peruvian littoral. The adult birds have the wingbands very nearly as evanescent and the dusky tips to the white occipital crest quite as extensive as others from Lima in comparable plumage. The examination of a series of freshly molted specimens is, however, required to establish their identity beyond question.

94. *Phytotoma rara* Molina

Phytotoma rara Molina, Saggio Stor. Nat. Chile, p. 254, 1782—Chile; Lafresnaye and d'Orbigny, Syn. Av., 1, p. 37—Chile (male and female descr.); d'Orbigny, p. 293—Valparaíso; Eydoux and Gervais, Mag. Zool., 8, cl. 2, pl. 86, 1838 (anatomy); idem, Voy. Favorite, 5, Zool., Part 2, p. 64 bis, pl. 25, 1839 (anatomy); Eydoux and Souleyet, Voy. Bonite, Zool., 1, p. 92, 1841 (anatomy); Darwin, p. 106—central Chile; Eyton, Zool. Beagle, 3, p. 153, 1841 (anatomy); Fraser (1), p. 113—Chile (habits); Yarrell, p. 53—Chile (eggs descr.); Des Murs (2), p. 363—Coquimbo to Chiloé; Bibra, p. 130—lowlands, less common in the Cordilleras, of central Chile; Hartlaub (3), p. 214—Valdivia; Boeck, p. 505—Valdivia; Cassin, p. 183—Valparaíso-Santiago Road; Germain, p. 312—Chile (breeding habits); Pelzeln (2), p. 95, pl. 6, fig. 11 (egg)—Chile; Sclater (2), 1867, pp. 327, 338—Chile; Philippi (12), p. 266—Chile; Landbeck (9), p. 260—Chile (habits); E. Reed (2), p. 553—Cauquenes, Colchagua; Waugh and Lataste (1), p. LXXXVI—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso (Quillota), Valparaíso; Lataste (4), p. XXXIV—Caillihue (Vichuquen), Curicó; E. Reed (4), p. 201—Chile; Lane, p. 35—Hacienda Mansel (Santiago), Corral and Calle-Calle, Valdivia; Schalow (2), p. 711—Santiago (nest and eggs descr.); Albert (1), 101, p. 254—Chile (monog.); Passler (2), p. 28—Coronel (nest and eggs descr.); Barros, Anal. Zool. Aplic., Santiago, 6, p. 11, pl. 2, 1919—Chile (habits, food); idem (4), p. 147—Nilahue, Curicó; idem (5), p. 186—Los Andes, Aconcagua; Passler (3), p. 469—Coronel (habits); Housse (1), p. 49—Isla La Mocha, Arauco; idem (2), p. 146—San Bernardo, Santiago; Hellmayr, Nov. Zool., 32, p. 10, 1925—Valparaíso; Barros (8), p. 141—Los Andes, Aconcagua; Jaffuel and Pirion, p. 107—Marga-Marga, Valparaíso; Bullock (4), p. 177—Angol, Malleco.

Phytotoma bloxamii Jardine and Selby, Illust. Orn., 1, Part 1, pl. 4, Feb., 1827—Valparaíso; Pidgeon in Griffith, Anim. Kingd., 7, pl. facing p. 319—"South America"—Valparaíso; Vigors, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 2, p. 3, 1832—Chile (note on female); Meyen, p. 89—Chile, particularly common . . . in the vicinity of Tacna (errore); Lesson (10), 1842, p. 136—Valparaíso (crit.).

Phytotoma silens Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 175, pl. 1, 1830—near Valparaíso; idem, Denkw., 1, p. 148—near Valparaíso (type in Leningrad Museum; cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 13, 1921).

Phytotoma rutila (not of Vieillot) Lafresnaye, Mag. Zool., 2, cl. 2, pl. 5, 1832—Valparaiso and Santiago, Chile, and "Peru" (errore).

Phytotoma molina Lesson, L'Institut, 2, No. 72, p. 317, Sept., 1834—vicinity of Valparaiso (male and female descr.).

Range in Chile.—Central and southern provinces, from Coquimbo to Llanquihue.

Material collected.—Coquimbo: Paiguano (alt. 3,300 feet), ♂ ad., June 19.—Concepción: Hacienda Gualpencillo, ♂ ad., April 1.—Malleco: Curacautin, three ♂ ♂ ad., two ♀ ♀ ad., two ♂ ♂ juv. (pulli), Jan. 8–13.—Valdivia: Máfil, ♂ ad., ♂ juv., Feb. 17, 27; Ríñihue, ♀ juv., March 12.—Chiloé Island: Quellon, ♂ ad., ♀ ad., Dec. 31, Jan. 31.—Llanquihue: Casa Richards, Rio Ñirehuau, ♂ juv., Feb. 16.

Additional specimens.—Santiago: Santiago, ♂ ad., Nov., 1872. E. C. Reed (Field Museum).—Valparaiso: Valparaiso, ♀ ad. D'Orbigny (Paris Museum).

The "Rara" is generally distributed throughout Chile, but more plentiful in the southern provinces. The northern limit of its range seems to coincide with the latitude of Coquimbo. Mr. Sanborn shot an example at Paiguano, east of that city, in the hills at an elevation of 3,300 feet. Meyen's assertion that this bird is particularly common in the vicinity of Tacna must be a mistake.¹ According to Landbeck, it is migratory in the south (vicinity of Valdivia), where it occurs only in the summer months (from October to April). Farther north it is seen throughout the year, such being the case in Malleco (Bullock), Curicó (Barros), and Santiago (Landbeck). While chiefly a bird of the lowlands and foothills, it penetrates the mountains to certain altitudes (not much beyond 6,000 feet), where it is, however, merely a summer visitor, departing for the coast in March and April and returning to its breeding haunts early in August, as we gather from Barros's observations made in Aconcagua.

The "Rara" frequents the vicinity of cultivated fields, orchards, and gardens, where these birds do an enormous amount of damage by biting off buds and destroying fruits. The note of the male is a rasping or grating noise, more remarkable than harmonious, and uttered after the manner of a song by the bird, while seated on the top of a bush, in spring or summer.

¹If a representative of the genus really occurs near Tacna, it is more likely to be the Peruvian *P. raimondii* than the Chilean *P. rara*.

The nest, made of dry sticks and lined with rootlets, is placed in a thick bush several feet above the ground. The clutch consists of two to four eggs, which are glossy light blue or green with small blackish markings and some larger spots of the same color around the upper end. The laying takes place from October to January. Passler claims that the "Rara" breeds twice in the region about Coronel, first early in October and again in the latter half of December.

For more particulars about the life-history of this bird, R. Barros's paper in Porter's *Anales de Zoologia Aplicada* for 1919 should be consulted.

[Neither *Phytotoma rutila angustirostris* Lafr. & d'Orb., of which the Munich Museum has a specimen supposed to be Chilean,¹ nor *Phytotoma raimondii*, erroneously recorded from "Valparaiso" by Allen,² occurs in Chile.

Grallaria varia Boddaert, erroneously included by Des Murs (in Gay, 1, p. 329) in the Chilean fauna, is restricted to the Guianas.]

95. *Geositta cunicularia fissirostris* (Kittlitz)

Alauda fissirostris Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 2, p. 468, pl. 3, Aug., 1835—Valparaiso, Chile; idem, Denkwurd., 1, p. 146—Valparaiso (type in Leningrad Museum; cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 19, 1921).

Alauda nigro-fasciata Lafresnaye, Mag. Zool., 6, cl. 2, text to pll. 58–59 [p. 6], 1836—Chile (type in Paris Museum examined).

Geositta anihordes Swainson, Anim. Menag., p. 323, Dec., 1837—Chile.

Furnarius cunicularius Darwin, p. 65—part, central Chile south to Concepción.

Geositta canicularia Bridges, p. 94—Chile, between 34° and 35° S. lat.; Yarrell, p. 53—Chile (eggs descr.).

Geositta (Furnarius) canicularia Fraser (1), p. 111—central provinces.

Certhilauda cunicularia Des Murs (2), p. 286—Chile; Frauenfeld, p. 636—Valparaiso; Philippi and Landbeck (15), p. 409—prov. Colchagua, Santiago, and Aconcagua (habits); idem (16), p. 59—same localities (habits); Philippi (12), p. 251—central and northern provinces; Landbeck (9), p. 236—Chile (habits); Lataste (5), p. LXI—Llohué (Itata), Maule; Waugh and Lataste (2), p. CLXX—San Alfonso (Quillota), Valparaiso.

Certhilauda nigrofasciata Des Murs (2), p. 287—"provincias del sur de Chile"; Philippi (12), p. 252—Chile (ex Gay); Sclater (2), 1867, p. 324 (crit.).

¹See Laubmann, Wiss. Erg. Deut. Gran Chaco Exp., Vogel, p. 237, 1930.

²Bull. Amer. Mus. Nat. Hist., 2, p. 88, 1889.

Geositta cunicularia Pelzeln (2), p. 59—Chile; Sclater (2), 1867, pp. 323, 338—Chile; Sclater and Salvin, Ibis, 1870, p. 499—Coquimbo; E. Reed (2), p. 546—Cauquenes, Colchagua; Sharpe, p. 8—Coquimbo; Salvin (2), p. 424—Coquimbo; Allen, p. 88—Valparaíso; E. Reed (4), p. 201—Chile; Albert (1), 101, p. 26—Chile (part); Housse (1), p. 48—Isla La Mocha, Arauco; idem (2), p. 145—San Bernardo, Santiago; Jaffuel and Pirion, p. 107—Marga-Marga, Valparaíso; Bullock (4), p. 177—Angol, Malleco.

Geositta cunicularia cunicularia Barros (4), p. 143—Ñilhue, Curicó; Pässler (3), p. 456—Coronel (nesting habits).

Geositta cunicularia fissirostris Wetmore (3), p. 244—Concon, Valparaíso.

Range in Chile.—From southern Atacama to Cautin.

Material collected.—Atacama: Domeyko (63 km. south of Val-lenar), two ♂♂ ad., Aug. 9, 10.—Coquimbo: Romero, five ♂♂ ad., two ♀♀ ad., July 14–19.—Maule: Quirihue, two ♂♂ ad., May 2–3.—Concepción: Hacienda Gualpencillo, ♀ ad., March 28; near coast, two ♂♂ ad., two ♀♀ ad., April 14.

Additional specimens.—Valparaíso: San Alfonso (Quillota), ♂ ad., two ♀♀ ad., June, 1894. F. Lataste (Paris Museum).—Concepción: Coronel, one (unsexed) adult. R. Pässler (Berlin Museum).—Cautin: Maquehue, ♀ ad., April 29, 1908. D. S. Bullock; Pelal, Temuco, ♂ ad., Dec. 3; Boroa, Temuco, ♂ ad., Dec. 3, 1909. A. C. Saldaña (British Museum).

G. c. fissirostris is rather a poor race, though in a series it may be distinguished from the typical Argentine form by somewhat more grayish upper parts, less buffy lower surface with heavier, more blackish pectoral spots, and wider, more abruptly defined black subterminal band on the inner remiges. All of these characters are, however, variable, and single specimens cannot be told apart.

Birds from Domeyko (Atacama) appear to be inseparable from those of central Chile, while specimens from Concepción and Cautin are as a rule, but not always, somewhat darker, less brownish above.

The "Caminero" is widely distributed in the central parts of Chile. According to Philippi and Landbeck, who met with it in the provinces of Aconcagua, Santiago, and Colchagua, it inhabits the slopes of the lower ranges of the foothills, the extensive plains at the base of the Andes, as well as the bare, arid stretches along the seacoast, from Llico (Curicó) to Illapel. Barros found it common in the Ñilhue Valley, Curicó; Pässler in the vicinity of Coronel; and Bullock in the valley of Angol, Malleco. The most southerly record is from Temuco, whence there are three specimens in the British Museum, while northward it ranges into the extreme south

of Atacama, where Sanborn, in August, secured two examples at Domeyko.

The "Caminero" is said to be resident and breeds from October to January. According to Pässler, it has two broods, one early in October and the second about mid-December. As nesting-sites it chooses deep burrows in the ground, which it often uses for several consecutive years. The three or four eggs are glossy white.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|----------------------------|-------------------------------------|---|--|
| Two from Domeyko, Atacama | 90,93 | 50 ¹ / ₂ , 53 ¹ / ₂ | 17 ¹ / ₂ , 18 |
| Five from Romero, Coquimbo | 88, 88, 91, 91, 92 | 52, 52, 53, 54, 54 | 17, 17 ¹ / ₂ , 18, 18, 19 |
| Two from Quirihue, Maule | 89, 96 | 50, 56 | 18, 20 |
| Two from Concepción | 90 ¹ / ₂ , 92 | 50, 55 | 17, 18 |

96. *Geositta cunicularia deserticolor* Hellmayr

Geositta cunicularia deserticolor Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 12, p. 72, 1924—Caldera, Atacama.

Geositta cunicularia Gigoux, p. 86—Caldera.

Range.—Arid littoral of Atacama (Caldera) and southwestern Peru (Arequipa), but doubtless also occurring in the intervening region.

Material collected.—Atacama: Caldera, seven ♂♂ ad., two ♀♀ ad., April 16, 18; May 25, Aug. 29. E. E. Gigoux and C. C. Sanborn.

This strongly marked form, which in coloration reflects the arid soil of the environment, is easily distinguished from the "Caminero" of central and southern Chile by the paleness of its plumage. The upper parts are light sandy or drab gray with the edges to the wing and tail feathers paler buff or whitish and the cinnamonous wing band decidedly paler; the superciliaries and the sides of the head and neck creamy rather than bright buff; the lower parts nearly pure white with just a touch of creamy across chest and along flanks; the dusky markings on the breast less conspicuous, the under wing coverts, quill-lining, and basal half of tail less rufescent; the base of the upper tail coverts buffy white instead of pinkish buff or light pinkish cinnamon. In dimensions, *G. c. deserticolor* is practically identical with *G. c. fissirostris*.

Seven adult males measure as follows.—Wing 87, 87, 88, 88, 88, 92, 92; tail 49, 49, 49, 49, 49, 51, 52; bill 17, 17, 17, 18, 18, 18, 18¹/₂.

Two adult females.—Wing 89, 92; tail 49, 50; bill 17¹/₂, 18¹/₂.

In Chile, this representative of the "Caminero" has as yet been found only in the vicinity of Caldera, where it is reported to be fairly

common in the plains near the seacoast; but it doubtless also occurs in the adjacent provinces to the north, since birds from the arid littoral of Arequipa prove to be referable to this form. We have examined half a dozen specimens from Islay, Tambo, Catarindos Valley, and Cocachacra in the collections of the American Museum of Natural History, the Vienna Museum, and the British Museum.

97. *Geositta cunicularia frobeni* (Philippi and Landbeck)

Certhilauda frobeni Philippi and Landbeck, Anal. Univ. Chile, 25, p. 411, Sept., 1864—Putre (alt. 10,000 feet), Tacna; idem, Arch. Naturg., 31, (1), p. 62, 1865—Putre.

Geositta (Certhilauda) frobeni Philippi (24), p. 29, pl. 21, fig. 1—Putre.

Geositta cunicularia Albert (1), 101, p. 26 (part, var. *frobeni*).

Range in Chile.—Once recorded from Tacna (Putre).

The type of this form was obtained by Frobeen in July, 1853, at Putre at an elevation of about 10,000 feet. We have not been able to examine any Chilean material, and as Field Museum received two specimens of *G. punensis* from near Putre, the question arose as to whether *C. frobeni* might not have been based upon an example of the last-named species. Certain details of the description, such as the *white* longer upper tail coverts and basal half of the rectrices, the presence of brown pectoral spots, and the shape of the bill, however, seemed to indicate a bird of the kind we used to call by Philippi's name. Mr. Karl P. Schmidt, provided with specimens of the two species and notes on their distinctive characters, very obligingly compared the type in the National Museum at Santiago, when visiting that city several years ago, and reports that it unquestionably belongs to the species with spotted breast. The type, labeled "*G. cunicularia*, var. *frobeni*, Arica,¹ 1853," was found to agree with F. M. N. H. No. 53,115 (♂ ad., Puno, Peru, Jan. 23, 1915. Geo. K. Cherrie) except for its whiter under parts, fainter brown breast spots, and paler, more whitish, basal half of the tail; differences which are of no account and well within the individual and seasonal variation in these birds. Mr. Schmidt adds that it is plainly not *G. punensis*, its bill being much longer, stouter, and less curved apically than in the latter species.

The coexistence at Putre of *G. c. frobeni* and *G. punensis* is not surprising since they live side by side in other parts of their range,

¹"Arica," the residence of Frobeen, the discoverer of this miner, is no doubt a pen-slip for "Putre." The year of acquisition (1853) marked on the label makes it reasonably certain that this specimen is the one described by Philippi and Landbeck in 1864.

too. The Carnegie Museum has specimens of both collected by José Steinbach at Oruro, Bolivia, in December, 1921, while Miller and Boyle secured an adult male of each on January 3, 1916, at La Quiaca, Jujuy, for the American Museum of Natural History.¹

98. *Geositta punensis* Dabbene

Geositta punensis Dabbene, Physis, 3, p. 54, March, 1917—La Quiaca, Jujuy, Argentina; Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 7, 1925—twenty miles east of San Pedro, Ojo de San Pedro, and Rio Inacaliri, Antofagasta, and Las Cuevas, Tacna.

Geositta cunicularia Sclater (4), 1886, p. 398—Sacaya and Sitani, Tarapacá.

Geositta frobeni (not of Philippi and Landbeck) Sclater, Cat. B. Brit. Mus., 15, p. 6, 1890—part, spec. a, b, Tarapacá; idem (6), 1891, p. 134—Sacaya; E. Reed (4), p. 202—Tarapacá; Lane, p. 36—Sacaya.

Geositta cunicularia frobeni Ménégau, Bull. Soc. Philom. Paris, (10th ser.), 1, p. 215—part, Tacora, Tacna.

Range in Chile.—Puna Zone, in the provinces of Tacna, Tarapacá, and Antofagasta.

Material collected.—Tacna: Las Cuevas, near Putre (alt. 13,500 feet), ♂ ad., ♀ ad., June 20.—Antofagasta: Rio Inacaliri (alt. 12,800 feet), two ♀ ♀ ad., April 27; Ojo de San Pedro (alt. 12,400 feet), ♀ ad., May 2; twenty miles east of San Pedro (alt. 12,600 feet), four ♂ ♂, four ♀ ♀ ad. and imm., April 25–30, Sept. 18, Oct. 2–5.

Additional specimens.—Tacna: Tacora, one (unsexed) adult. Stuebel (Berlin Museum).—Tarapacá: Sacaya, three ♂ ♂ ad., one ♀ ad., Feb. 8, March 6–9. C. Rahmer and A. A. Lane; Cordillera of Tarapacá, three ♀ ♀, Jan. 17, 1886. C. Rahmer (British Museum).—Antofagasta: Tapaquilcha, ♂ ad., March 6, 1847. Behn (Berlin Museum).

In spite of its superficial resemblance, *G. punensis* appears to be perfectly distinct from *G. c. frobeni* by shorter, slenderer, apically more curved bill, paler upper parts, and uniform creamy white ventral surface without the slightest trace of dusky markings on the chest. The upper tail coverts are pinkish cinnamon like the basal half of the tail, not buffy white as in *G. c. frobeni*.

¹Philippi (Ornis, 4, p. 158, 1888) records *G. cunicularia* from Pastos Largos, n. of Maricunga, Puna of Atacama, and *G. frobeni* from Brea [= Breas, at western base of Antofalfo Volcano], in the Argentine province of Los Andes. The latter may be correctly identified, but the other is more likely to be *G. punensis*, although it is difficult to see how this plain-breasted species could possibly have been mistaken for *G. cunicularia* (or one of its races) with heavily pronounced pectoral markings.

Birds from Antofagasta and Oruro are exactly alike, while a single topotype from La Quiaca, Jujuy, is just a shade more buffy above. Our two specimens from Tacna are more grayish above, but this is hardly noticeable in the Tacora bird of the Berlin Museum. Comparison of a small series from Tarapacá with a single example from Jujuy (Santa Catalina) also failed to reveal any constant difference. A specimen in the British Museum labeled "Feb. 2, 1886. Central Chile" is one of Rahmer's skins from Tarapacá.

G. punensis is peculiar to the Puna Zone of northern Chile, western Bolivia (Oruro), and northwestern Argentina, being hardly ever found below 10,000 feet. According to Lane, these birds are resident and breed in the mountain districts, as a rule frequenting dry open ground near the valleys. They are strictly insectivorous and terrestrial, not perching at all. When disturbed they are more inclined to run than to fly, which they do with great rapidity and in a peculiar way, keeping the tail spread and the head and body thrown back. They have a shrill, remarkable cry, which may be frequently heard, and appear to prefer bare sandy spots to places where a little vegetation occurs.

99. *Geositta antarctica* Landbeck

Geositta antarctica Landbeck, Arch. Naturg., 46, (1), p. 274, pl. 12, 1880—Tierra del Fuego; Albert (1), 101, p. 28—Tierra del Fuego.

Geositta brevirostris Scott, Bull. Brit. Orn. Cl., 10, p. LXIII, 1900—Mount Tigre, Patagonia, and "Central Chile."

Range in Chile.—Occasional winter visitor, once recorded from "Central Chile."

Material examined.—"Central Chile:" one (unsexed) adult. H. Berkeley James Collection (British Museum).

The Short-billed Miner, which is supposed to breed in Tierra del Fuego and southern Patagonia, may be expected to occur in Chile as a winter visitor. The specimen in the British Museum with no other data than "Central Chile," the only one we have seen from the territory covered by this paper, agrees with others from the southern extremity of South America. The species has variously been taken in the winter months (April, June, July) in the province of Mendoza, just across the Andes. The birds observed by R. Barros (Rev. Chil. Hist. Nat., 25, p. 180, 1921) on October 15, 1920, at Vega Redonda (Valle de los Piuquenes), Aconcagua, which he thought might have been *G. antarctica*, very likely pertained to *G. isabellina*.

Since writing on this bird,¹ we have examined another example, an adult male secured by J. Koslowsky in the Valle del Lago Blanco, Chubut, on August 29, 1900, and preserved in the collection of the British Museum.

G. antarctica, while not unlike *G. cunicularia* in general appearance, may be immediately recognized by much longer wings and tail; straighter as well as shorter bill with the light-colored base to the lower mandible less sharply defined; by having very little, if any, brownish markings on the chest; and by the different coloration of the remiges. The tawny area on the base of the quills, so conspicuous a feature in *G. cunicularia*, is but slightly suggested by a dull isabelline tinge on the inner web of the second to the fifth or sixth primaries, while the remaining primaries as well as the secondaries are nearly uniform drab brown, without a distinct dusky subterminal band. Besides, the wing is more pointed, the first primary falling between the third and fourth, instead of between the fourth and fifth as is invariably the case in *G. cunicularia*.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|--|-----------|--------|---------|
| One from Lago Blanco, Chubut | 106 | 60 | 13½ |
| Adult females | | | |
| One from Tierra del Fuego (Punta Anegada) | 108 | 61 | 14½ |
| Two from Mendoza | 103, 103 | 57, 60 | 13½, 14 |
| Unsexed | | | |
| Two from Elizabeth Island, Straits of Magellan | 108, 108½ | 61, 62 | 14,— |
| One adult from "Central Chile" | 106 | 58 | 13 |

100. *Geositta isabellina* (Philippi and Landbeck)

Certhilauda isabellina Philippi and Landbeck, Anal. Univ. Chile, 25, p. 412, Sept., 1864—Valle Larga and Los Piuquenes, Cordillera of Santiago; idem, Arch. Naturg., 31, (1), p. 63, 1865—same localities; Philippi (12), p. 252—Cordillera of Santiago; Landbeck (9), p. 236—Cordilleras of Chile.

Geositta isabellina Sclater (2), 1867, pp. 323, 338—Chile; E. Reed (2), p. 546—Valle de los Cipreses, Colchagua; idem (4), p. 202—Chile.

Geositta (Certhilauda) isabellina Philippi (24), p. 31, pl. 22, fig. 1—Chile.

(?) *Geositta antarctica* Barros (5), p. 180—Vega Redonda (Valle de los Piuquenes), Aconcagua.

Range in Chile.—Cordilleras of central provinces, from Coquimbo to Colchagua.

Material collected.—Coquimbo: Baños del Toro (alt. 10,600 feet), ♂ ad. (in worn plumage), Nov. 19, 1923.

¹Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 7, 1925.

Additional specimens.—Santiago: Cordillera of Santiago, three ♂♂ ad., two ♀♀ ad., Dec., 1865, Oct., 1872. R. A. Philippi and E. Reed (U. S. National Museum and Paris Museum).

This fine species is immediately recognizable among its congeners by its large size (wing 120–124; tail 63–67; bill 20–21), the absence of dusky edges on the chest and of the rufous area on the basal portion of the *outer* web of the remiges, and by the extensive white uropygial area.

Very little is known regarding its distribution. Philippi and Landbeck, its discoverers, found it in the Cordilleras of Santiago Province at elevations of from 7,000 to 10,000 feet, where it lives on stony slopes and among rocks. Edwyn Reed met with it in the Valle de los Cipreses, Colchagua, and Sanborn, by taking a specimen at Baños del Toro, extended its range to Coquimbo Province. There seems little doubt that the birds seen by R. Barros at Vega Redonda, Aconcagua, belonged to this species rather than *G. antarctica*.

These birds, according to Philippi and Landbeck, are very active, continually running and flying around, and resemble in habits and song certain European larks. They build their nests in holes among rocks; the eggs are similar to those of *G. c. fissirostris*, but larger. In February, full-grown young were obtained, while the adults were in the process of molting.

Outside of Chile, this species has been found in the high Andes west of Mendoza and other parts of western Argentina.¹ Three specimens from Puente del Inca in the British Museum are identical with Chilean birds.

101. *Geositta maritima* (Lafresnaye and d'Orbigny)

Certhilauda maritima Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 72, 1837—"Cobija, in Bolivia" [=Prov. Antofagasta, Chile] (type in Paris Museum examined); d'Orbigny, Voy., p. 360, pl. 44, fig. 1—Cobija.

Geositta maritima Ménégau and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 47—Cobija (crit.); Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 10, 1925—Domeyko, Caldera, and Ramadilla, Atacama, and Chintagui, Tarapacá.

Range in Chile.—Arid coast region of Atacama, Antofagasta, and Tarapacá, extending into western Peru (Lima region).

¹E. Reed (Anal. Univ. Chile, 93, p. 202, 1896), when asserting that this species migrates in winter northwards to Bolivia, must have confused some notes relating to *G. rufipennis fasciata*.

Material collected.—Tarapacá: Chintagui, Quebrada de Quisma (alt. 4,000 feet), four ♂♂ ad., two ♀♀ ad., May 22–24.—Atacama: Caldera, ♂ ad., ♀ ad., July 20, 1924. E. E. Gigoux; Ramadilla, Copiapó Valley, two ♂♂ ad., one ♀ ad., March 23; Domeyko (63 km. south of Vallenar), ♂ ad., ♂ imm., Aug. 15, 16.

Additional specimens.—Antofagasta: Cobija, one (unsexed) imm. D'Orbigny (type of species; Paris Museum).

The rediscovery by Mr. Sanborn of this long lost species is one of the most interesting results of our explorations in Chile. While superficially resembling *G. peruviana*, the present species is easily distinguished by the following characters. The bill is more slender with the basal two-thirds of the lower mandible yellow (flesh-color in life), abruptly defined against the blackish tip; the dorsal surface is much darker and grayer; the superciliaries and auriculars darker, light pinkish cinnamon rather than buffy whitish; the axillars, under wing coverts, and an extensive area on the flanks strongly rufescent, varying from light pinkish-cinnamon to vinaceous-cinnamon; the remiges uniform mouse-gray without trace of the large cinnamon basal area, so conspicuous in *G. peruviana*, there being but a narrow light pinkish-cinnamon inner margin; the outer web of the outermost rectrix is light ochraceous-buff instead of white, but there is no light-colored zone at the base of the remaining rectrices or on the inner web of the external pair. The coloration of the upper parts is nearest to light drab, but often inclines to a light grayish hair-brown.¹ Apart from this and the intensity of the rufescent area underneath the series shows very little variation.

An immature bird has distinct cinnamonaceous apical edges to the inner primaries and a slight rufescent tinge on the inner web of the remiges, while the margins on the greater upper wing coverts are more decidedly buffy.

Seven adult males measure as follows.—Wing 85 (four), 86½, 87, 89; tail 50, 52, 52, 53, 53, 54, 57; bill 13½, 14 (five), 15.

Four adult females.—Wing 82, 82, 83, 86; tail 49, 50, 52, 54; bill 14.

Birds from Lima are above somewhat darker, less grayish, and have the rufescent area on the sides of the belly slightly deeper in tone. They may prove to be separable when a larger series becomes available.

¹The expression "smoke gray"—used in Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 10—is altogether misleading.

In Chile, *G. maritima* is restricted to the arid districts between the seashore and the foothills of the Andes. Sanborn first met with it at Domeyko, in southern Atacama, and again at Ramadilla, in the Copiapó Valley. Later, it was found in larger flocks at El Salto and Chintagua, two miles south of Pica, in the foothills at an elevation of 4,000 feet.

102. *Geositta rufipennis fasciata* (Philippi and Landbeck)

Geobamon fasciatus Philippi and Landbeck, Anal. Univ. Chile, 25, No. 3, p. 415, Sept., 1864—lower Cordilleras of Santiago and Colchagua Provinces: idem, Arch. Naturg., 31, (1), p. 68, 1865—same localities.

Geositta fasciata Sclater (2), 1867, pp. 323, 338—Chile (crit.); E. Reed (2), p. 546—Cauquenes, Colchagua; Gigoux, p. 86—Caldera, Atacama.

Geobamon nigrofasciaticus (sic) Philippi (12), p. 252—Cordilleras of Santiago.

Geobamon nigrofasciata Landbeck (9), p. 236—Cordilleras of Chile (habits).

Geositta rufipennis Sclater, Cat. B. Brit. Mus., 15, p. 7, 1890—part, Santiago; E. Reed (4), p. 202—Chile; Schalow (2), p. 710—part, spec. a, b, Ovalle and Totoralillo, Coquimbo; Albert (1), 101, p. 31—Chile (part, var. *fasciata*); Housse (2), p. 144—San Bernardo, Santiago.

Geositta (Geobamon) rufipennis Philippi (24), p. 30, pl. 21, fig. 2—Chile.

? *Geositta isabellina* Barros (4), p. 143—Nilahue, Curicó (June).

Geositta rufipennis rufipennis Barros (5), p. 179—Cordilleras of Aconcagua and Cerro de Renca, Prov. Santiago; idem (11), p. 315—Juncal to Portillo (alt. 9,000 feet), Prov. Santiago.

Range in Chile.—From Atacama to Colchagua and Curicó.¹

Material collected.—Atacama: Caldera (Quebrada del Leon), six ♂♂ ad., seven ♀♀ ad., May 18–25, Sept. 24, 1924. E. E. Gigoux; two ♀♀ ad., March 26, 1924. C. C. Sanborn; Domeyko (63 km. south of Vallenar), ♂ ad., Aug. 16.—Coquimbo: Romero, ♂ ad., July 31; Baños del Toro (alt. 10,600 feet), three ♂♂ ad., two ♀♀ ad., Nov. 9–18.—Santiago: Maipo, ♀ ad., June, 1923. C. S. Reed; San Bernardo, ♂ ad., Aug. 26, 1923. C. S. Reed.

We have not been able to compare an adequate series from the type locality, most of the Santiago specimens examined in European collections being old and faded. The two skins collected by Carlos S. Reed are very dark, being nearly hair-brown above, while the under parts are heavily washed with buffy or (in the San Bernardo bird) even with light drab. There are only two in the whole series, a male from Romero (Coquimbo) and another from Domeyko (Atacama), which are as deeply buffy underneath as the Maipo

¹Passler's record of *G. rufipennis* (Journ. Orn., 70, p. 457, 1922) from Coronel, Concepción, must refer to some other species. No specimen was preserved.

specimen, and the Romero bird approaches it also in the dark coloration of the upper parts. The series from Caldera (in fresh plumage) and Baños del Toro (in worn breeding garb) vary from light buff to nearly white below, and the dorsal surface is much paler gray, often tinged with sandy, particularly on the crown. Some of these birds are not distinguishable from what I consider typical *G. r. rufipennis*, although the latter generally is somewhat larger. It is quite possible that a more satisfactory series from northwestern Argentina might show the inhabitants of northern Chile (Coquimbo and Atacama) to be referable to *rufipennis*, whereby the range of *G. r. fasciata* would be restricted to the central provinces (Colchagua to Curicó) and the adjacent Mendoza region.¹ In other words, it may turn out that there is a northern and a southern form instead of a western and an eastern one as had been heretofore admitted.

During the breeding period *G. r. fasciata* inhabits the Cordilleras from 4,000 up to 10,000 feet, but on the approach of cold weather it repairs to lower altitudes, descending even to the vicinity of the seacoast. In summer, we are told by Landbeck, these birds feed on insects almost exclusively, while seeds are their principal food in the winter months. They appear to be particularly fond of the fruits of a certain Euphorbiacea (*Coliguaya odorifera* Mol.), and under these bushes large flocks may be seen eagerly picking up its seeds. Landbeck describes the call-note as being similar to that of the European Greenfinch (*Chloris chloris*). Its song is loud, rather variable, and is frequently uttered by the male. The "Agachadera," as it is called by the natives, breeds in holes and crevices of rocks. The nest is carefully built of grass and other soft material, lined inside with hair and feathers, and contains four or five rather large, glossy white eggs.

MEASUREMENTS

| <i>G. rufipennis fasciata</i> —Adult males | Wing | Tail | Bill |
|--|------------------------------------|-----------------------------------|-----------------------|
| Six from Caldera, Atacama | 94,95,95, 95,97,100 | 55,56,56, 57,57,59 | 14,15,15, 16,16,16 |
| One from Domeyko, Atacama | 103 | 57 | 16 |
| One from Romero, Coquimbo | 105 | 63 | 16½ |
| Three from Baños del Toro, Coquimbo | 103,103,104 | 62,62,63 | 15,16,16½ |
| One from San Bernardo, Santiago | 101 | 60 | 17 |
| One from Puente del Inca, Mendoza | 103 | 58 | 17 |
| <i>G. rufipennis fasciata</i> —Adult females | | | |
| Nine from Caldera, Atacama | 92,93,94, 94,94,95, 95,96,97 | 54,54,56, 57,57,57, 58,59,— | 15-16 |

¹Three adults from Puente del Inca in the British Museum collection seem to be inseparable from Santiago specimens, but are much darker both above and below than a single male from Santa Catalina, Jujuy (*rufipennis*).

| <i>G. rufipennis fasciata</i> —Adult females | Wing | Tail | Bill |
|--|----------|-------|----------|
| Two from Baños del Toro, Coquimbo | 100,104 | 61,62 | 15,16½ |
| One from Maipo, Santiago | 104 | 61 | 16 |
| One from Puente del Inca, Mendoza | 104 | 60 | 16 |
| <i>G. r. rufipennis</i> —Adult males | | | |
| Two from Tucumán (Lara and Cerro Muñoz) | 106,107½ | 67,69 | 16½, 16½ |
| <i>G. r. rufipennis</i> —Adult females | | | |
| One from Tucumán (Cerro Muñoz) | 107 | 69 | 17 |
| <i>G. r. rufipennis</i> —Unsexed | | | |
| Type of <i>G. rufipennis</i> from "Paraná" | 113 | 69 | 16½ |

103. *Upucerthia dumetaria hallinani* Chapman

Upucerthia dumetaria hallinani Chapman, Bull. Amer. Mus. Nat. Hist., 41, p. 324, 1919—Tofo, sixty miles north of Coquimbo, Prov. Atacama (type in American Museum of Natural History examined).

Upucerthia dumetaria (not of Geoffroy Saint-Hilaire) Darwin, p. 66—part, Coquimbo; Philippi, Reise Wüste Atacama, p. 161—banks of the Rio Atacama; Sclater (2), 1867, pp. 324, 338—Coquimbo; Philippi (12), p. 251—part, Atacama; Sharpe, p. 9—Coquimbo; Philippi, Ornith., 4, p. 158—"Atacama, Copacolla" [=Copacoya, n. of San Pedro de Atacama, Antofagasta]; Schalow (2), p. 709—La Serena, Coquimbo; Albert (1), 101, p. 36—part, Atacama; Passler (3), p. 457—part, Antofagasta and Coloso, Antofagasta (nesting habits).

Upucerthia dumetaria (sic) Gigoux, p. 87—Caldera, Atacama.

Range in Chile.—In northern provinces, from Coquimbo to Antofagasta.¹

Material collected.—Coquimbo: Romero, three ♂♂ ad., one ♀ ad., July 11–29; Baños del Toro (alt. 10,600 feet), ♂ ad., two ♀ ad., Nov. 13–15.—Atacama: Monte Amargo (41 km. southeast of Caldera, alt. 500 feet), ♂ pull., Oct. 10, 1923. E. E. Gigoux; Ramadilla, Copiapó Valley, ♂ ad., Aug. 24; Domeyko (63 km. south of Vallenar), two ♂♂ ad., one ♀ ad., Aug. 13–14.—Antofagasta: Rio Loa (alt. 7,500 feet), two ♂♂ ad., one ♀ ad., Sept. 12–14.

Additional specimens.—Coquimbo: Punta Alatina, near La Serena, one adult, one juv., November, 1893. L. Plate (Berlin Museum).—Atacama: Tofo, ♂ ad., June 3, 1917. T. Hallinan (type of subspecies; American Museum of Natural History).

This form is exceedingly close to *U. d. hypoleuca*, but the upper parts are on average somewhat paler and more sandy; the lower surface is more whitish, only the chest and flanks being washed with buff, and the tips to the lateral rectrices are of a brighter cinnamon-

¹According to Pässler (Journ. Orn., 70, p. 458, 1922) "*U. dumetaria*" ranges as far north as Mollendo, Peru.

ous. A good many specimens are indistinguishable, however, and it is not at all unlikely that with more comprehensive material the North Chilean form will prove to be inseparable from *U. d. hypoleuca*.

Birds from Domeyko are practically identical with a male from Ramadilla, which, in its turn, is an exact duplicate of the type. Specimens from Rio Loa (Antofagasta) and Baños del Toro (Coquimbo), all in more or less worn condition, are browner above, but seem better referred to *U. d. hallinani* than to *U. d. hypoleuca*.

Four skins from Romero (Coquimbo), in coloration of under parts, closely approach the southern *U. d. saturator*, but in other respects agree with birds from Atacama and northward.

U. d. hallinani represents this group of earth-creeper in the arid districts of northern Chile. Its altitudinal range seems to extend from the seacoast up to the elevated Cordilleras.

Pässler reports to have found nests in November at Coloso and on a small island near Antofagasta. That this species does breed in low country is proved by a nestling partly in down secured by E. E. Gigoux, on October 10, 1923, at Monte Amargo, southeast of Caldera, at an altitude of about 500 feet above sea level. Plate also obtained, in November, a worn adult and a young bird at Punta Alatina, Coquimbo Bay. Judging from the condition of their plumage, the birds taken by Sanborn in September at Rio Loa (alt. 7,500 feet) and in November at Baños del Toro (alt. 10,600 feet) were breeding.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|-----------------------------------|------------|----------|-----------------------------------|
| Two from Rio Loa, Antofagasta | 104,106 | 87,87 | 36,38 |
| One from Copiapó Valley, Atacama | 105 | 83 | 36 |
| Two from Domeyko, Atacama | 100,100 | 81,84 | 35,36 ¹ / ₂ |
| One from Tofo, Atacama | 101 | 83 | 33 ³ / ₄ |
| Three from Romero, Coquimbo | 99,101,105 | 80,83,84 | 33,36,37 |
| One from Baños del Toro, Coquimbo | 105 | 82 | 33 |
| Adult females | | | |
| One from Rio Loa, Antofagasta | 100 | 88 | 37 |
| One from Domeyko, Atacama | 99 | 84 | 37 ¹ / ₂ |
| One from Romero, Coquimbo | 96 | 77 | 34 |
| Two from Baños del Toro, Coquimbo | 95,99 | 79,83 | 36,37 |

104. *Upucerthia dumetaria hypoleuca* Reichenbach

Upucerthia hypoleuca Reichenbach, Handb. Spez. Orn., Scansoriae, A. Sittinae, livr. 4, p. 214, pl. 562b [=607, fig. 4072], 1853—Chile (type in Dresden Museum examined).

Ochetorhynchus dumetaria Bridges, p. 94—eastern side of Chilean Andes, 34°–35° S. lat.

Upucerthia dumetoria Fraser (1), p. 111—eastern side of Chilean Andes, 34°–35° S. lat.

Upucerthia dumetoria Des Murs (2), p. 284—Chile (in part); Philippi (12), p. 251—central provinces (in part); Ridgway, p. 135 (in text)—Valle del Yeso, Prov. Santiago; E. Reed (4), p. 202—Chile (in part); Albert (1), 101, p. 36—Chile (in part); Barros (5), p. 180—Cordillera of Aconcagua; Housse (2), p. 144—San Bernardo, Santiago.

Upucerthia dumetoria saturator (not of Scott) Barros (10), p. 359—Cordillera of Aconcagua.

Range in Chile.—Puna Zone of the central provinces, from Aconcagua to Colchagua.

Material examined.—Aconcagua: Villa de los Piuquenes (alt. 6,500 feet), ♂ juv., Dec. 23, 1920. R. Barros (American Museum of Natural History); Cajon de Castro (alt. 11,000 feet), ♀ juv., Feb. 25, 1926. R. Barros (Field Museum).—Santiago: Valle del Yeso, ♂ imm., ♀ imm., January, 1866. R. A. Philippi (U. S. National Museum).—"Central Chile:" one (unsexed) juv. H. Berkeley James Collection (British Museum).

As pointed out in another connection,¹ birds from the Cordilleras of Aconcagua and Santiago appear to be referable to the West Argentine form (*U. d. darwini*), and other specimens since examined serve to strengthen this identification. My theory that these birds might be stragglers from Argentina, however, cannot be upheld in the face of R. Barros' observations. This excellent naturalist tells us that the "Bandurrilla común" breeds in the Cordilleras of Aconcagua at altitudes of from 6,500 to 10,000 feet and stays on its nesting grounds until the end of August, when it repairs for the winter to the lower ranges and the Precordillera (Los Andes). Similar observations were made by Father Housse in the vicinity of San Bernardo in Santiago Province.

This race cannot be confused with *U. d. saturator*, the common form of southern Chile, being much paler throughout with the cinnamonous areas on wings and tail decidedly clearer, and having a longer, slenderer bill. It is much nearer to *U. d. dumetaria*, of Patagonia, from which it merely differs by its more brownish or rufescent coloration.

Thanks to the good offices of Dr. W. Meise I have been enabled to compare the type of *U. hypoleuca* Reich., recently unearthed in the collection at Dresden, with the large series in the British Museum. The specimen, labeled "*Upucerthia jelskii* (Cab.) No. 13,102. Peru oder Bolivien," agrees in every detail with Reichenbach's descrip-

¹Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 42, 1925.

tion, and I have little doubt that Dr. Meise is right in taking it for the bird from which diagnosis and figure in the "Handbuch" were drawn up. Although in rather poor condition, it plainly shows that *U. hypoleuca* has no affinity to *U. jelskii*. The markings of the tail, while totally different from those of the latter species, exhibit the same pattern as in the *U. dumetaria* group, the second and third rectrix (from without) being blackish with an oblique, cinnamonaceous apical spot, the central pair brownish like the back.¹ Underneath, the type specimen is indeed nearly white, with just a faint shade of buff laterally and without dusky squamulations on the chest, exactly like a young bird from "Central Chile" in the British Museum (Reg. No. 92.2.10.790).

U. hypoleuca thus turns out to have been based upon an example of *U. darwini*, and Reichenbach's name having priority by many years will have to replace Scott's later term.

105. *Upucerthia dumetaria saturator* Scott

Upucerthia saturator Scott, Bull. Brit. Orn. Cl., 10, p. LXIII, 1900—"Central Chile," we suggest Valparaiso (type in British Museum examined).

Upucerthia tamucoensis Chubb, Bull. Brit. Orn. Cl., 27, p. 101, 1911—"Tamuco" [=Pelal, Temuco, Prov. Cautin] (type in British Museum examined).

Upucerthia dumetaria (not of Geoffroy Saint-Hilaire) Des Murs (2), p. 284—Chile (in part); Philippi (12), p. 251—central provinces (in part); Allen, p. 88—Valparaiso; E. Reed (4), p. 202—Chile (in part); Albert (1), 101, p. 36—Chile (in part); C. Reed, Av. Prov. Concepción, p. 39—Concepción; Barros (4), p. 143—Ñilabue, Curicó; Passler (3), p. 457—part, between Coronel and Lota, Concepción; Jaffuel and Pirion, p. 106—Marga-Marga Valley, Valparaiso; Bullock (4), p. 177—Angol, Malleco.

Upucerthia dumetaria Cassin, p. 188—Chile; Pelzeln (2), p. 58—Chile (crit.; spec. in Vienna Museum examined).

Upucerthia dumetaria saturator Wetmore (3), p. 249—Concon, Valparaiso (April).

Range in Chile.—Central provinces, from Valparaiso and Santiago south to Cautin.

Material collected.—Valparaiso: Olmué, ♀ ad., June 3.—Curicó: Teno, ♂ ad., March 28, 1923. C. S. Reed.—Maule: Quirihue (alt. 800 feet), ♂ ad., May 2.—Concepción: Hacienda Gualpencillo, two ♂♂ ad., five ♀♀ ad., April 4–20.—Cautin: Villa Portales (alt. 3,300 feet), ♂ ad., March 1; Rio Lolen (alt. 3,600 feet), Lonquimai

¹What is left of the outermost rectrix—the basal half—is colored as in *U. dumetaria*, viz. blackish, with a narrow buffy external edge. The other tail-feathers are missing. Reichenbach correctly describes the tail as having the "Enden der drei Aussenschwanzfedern jederseits rothlichgrau."

Valley, ♂, ♀ (in juvenile molt), Feb. 11-13; Lake Gualletué (alt. 3,800 feet), ♀ juv., Feb. 18.

Additional specimens.—Santiago: Santiago, one (unsexed) adult. Heidrich (Berlin Museum).—Concepción: Coronel, one (unsexed) adult. R. Pässler (Berlin Museum).—Cautin: Pelal, Temuco, two ♂♂ ad., two ♀♀ ad. (including the type of *U. tamucoensis*), June 7-17, 1910. A. C. Saldaña (British Museum); Maquehue, Temuco, ♀ ad., June 11, 1910. D. S. Bullock (American Museum of Natural History).—"Central Chile:" two (unsexed) adults (including the type of *U. saturator*). H. Berkeley James Collection (British Museum).

U. d. saturator differs at a glance from the other races by very much darker, olive or sepia brown, upper parts and middle tail feathers without paler tips to the wing coverts; lawny rather than cinnamonous basal portion of remiges; generally wider, deeper cinnamon rufous tips to lateral rectrices; much duller, avellaneous rather than buffy, under parts with the blackish margins on foreneck and chest much more pronounced, and the flanks dark buffy brown or olive-brown. Besides, the bill is shorter, stouter, and more blackish.

The series examined exhibits a certain amount of variation, which appears to be of a purely individual nature. Darkest of all is the bird from Quirihue (Maule), in which the upper parts are very dark olive-brown, while, below, the deep (nearly cinnamon) buff color of the foreneck extends in a somewhat duller tone over the remaining under parts, deepening into brownish on the flanks and lower tail coverts. Several examples from Concepción and the majority from Cautin are but slightly paler, while all the others have a more or less conspicuous area of light buff in the middle of the belly, contrasted with the brown sides. I fail to see any constant difference, either in size or color, between the series from Cautin (*U. tamucoensis*) and the type of *U. saturator* from "Central Chile." The latter is not an extremely dark specimen and agrees in every respect with ours from Olmué, Valparaíso, but they are exactly matched by some of the Concepción birds. When describing *U. tamucoensis*, Chubb must have overlooked Scott's separation of the Chilean form, since no reference is made to *U. saturator*.

A young bird from Lake Gualletué, Cautin, is in general similar to a specimen in corresponding plumage of *U. d. hypoleuca*, from Cajon de Castro, Aconcagua, but has a much shorter, less curved bill, deeper rufous wing-area and tail-tips, and the dorsal surface, including the central rectrices, is sepia instead of buffy brown.

Our knowledge of the breeding range of this form is quite unsatisfactory. Pässler observed a bird carrying food to its brood on a steep cliff of the shore between Coronel and Lota, Concepción. It apparently also nests in the mountainous parts of Cautin, for among the specimens collected by Sanborn in that province at altitudes of 3,300 to 3,800 feet in February and March there are, in addition to an adult just finishing its annual molt, one bird in juvenile dress and two others in the process of molting from the juvenile into the first annual plumage. In the Valley of Angol, however, Bullock found the "Bandurrilla" only as a winter visitor, and Barros reports the same for the Nilahue Valley, Curicó. Whether it really breeds in the vicinity of Valparaíso, where specimens have been obtained in April and June, remains in doubt. According to Jaffuel and Pirion, it is merely a visitor in the Marga-Marga Valley, in that province. A single adult bird (in fresh plumage) sent by Heidrich from Santiago to the Berlin Museum is typical of *saturation* in coloration, but in shape and length of bill approaches *U. d. hypoleuca*, to which specimens from the Cordilleras of Santiago actually belong. It is probable that neither breeds in the vicinity of the Chilean capital, where both forms may, however, occur as winter visitors.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|---------------------------------|---------------------|--------------------|--------------------|
| One from Teno, Curicó | 100 | 78 | 30 |
| One from Quirihue, Maule | 97 | 79 | 30 |
| Two from Concepción | 103,104 | 81,84 | 28,29 |
| One from Villa Portales, Cautin | 102 | 80 | 31 |
| Two from Temuco, Cautin | 100,105 | 80,81 | 28,29 |
| Adult females | | | |
| One from Olmué, Valparaíso | 96 | 77 | 29 |
| Five from Concepción | 95,95,98, 98,100 | 77,78,81, 83,83 | 28,28,29, 29,29 |
| Three from Temuco, Cautin | 97,99,106 | 77,77,82 | 28,30,30 |
| Unsexed | | | |
| Type of <i>U. saturation</i> | 98 | 81 | 29 |

106. *Upucerthia validirostris pallida* Taczanowski

Upucerthia pallida Taczanowski, P. Z. S. Lond., 1883, p. 71—Junín, Peru.¹

Upucerthia jelskii (not *Coprotretis jelskii* Cabanis) Sclater (6), 1891, p. 134—Sacaya, Tarapacá; E. Reed (4), p. 202—Tarapacá; Lane, p. 37—Sacaya and Huasco, Tarapacá (habits).

¹As pointed out in another connection (Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, pp. 45-46, 1925), it is with considerable misgivings that we adopt Taczanowski's name for the present form; but pending the examination of the type—supposedly in the Raimondi Collection at Lima—we deemed it advisable not to depart from current nomenclature.

Upucerthia validirostris (not *Ochetorhynchus validirostris* Burmeister) Ménégaux and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 55, 1906—"Chile."

Upucerthia validirostris pallida Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 45, 1925—Putre, Tacna (in part).

Range in Chile.—Puna Zone of Tarapacá and Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), four ♂♂ ad., one ♀ ad., June 18, July 3, 7.

Additional specimens.—Tarapacá: Sacaya, three ♀♀ ad., March 28, April 2, 6, 1890. A. A. Lane (British Museum).—"Chile:" one adult, 1843. C. Gay (Paris Museum).

The Chilean series agrees perfectly with another from southern Peru (Titicaca region and Sumbay, Dept. Arequipa). There is the usual variation in the buffy tone of the under parts, which ranges from pinkish buff to nearly pale pinkish buff, with a varying amount of grayish apical margins to the feathers of the lower throat and foreneck. The rufous wing-area is always very extensive, sharply defined from the dusky tips, and of a deep orange-cinnamon; the median rectrices are dark brown (bister or sepia), strongly contrasted with the bright orange-cinnamon or Mikado brown three lateral pairs.

This race is very close to *U. v. validirostris*, of northwestern Argentina, and merely differs by shorter wings and tail, generally more slender bill, and decidedly paler, pinkish buff instead of light pinkish cinnamon under parts and superciliaries. In size, it stands somewhat between *U. v. validirostris* and *U. v. jelskii*, of central Peru, but the latter may be distinguished by having less, sometimes hardly any, rufous on wings and outer tail feathers.

Within Chilean boundaries, this earth-creeper is restricted to the Puna Zone of the two northernmost provinces, its altitudinal range extending from 9,000 to 12,000 feet.

According to Lane, these birds are invariably found on the slopes bordering a valley or marsh, where there is a scattered growth of scrub affording scanty covert. They are altogether terrestrial and fly very little. When disturbed in the open they make for the nearest covert, if hard pressed flying a short distance with quick strokes and apparent difficulty. The tail is carried erect when running. The note is a shrill cackling sound, with more or less variation. The bird feeds on worms and grubs, and seems to be altogether insectivorous. It nests in a hole which it excavates at the base of some bush on the hillside. The eggs are unknown.

MEASUREMENTS

| | Wing | Tail | Bill |
|---|-------------------------|----------------|-------------------------------|
| <i>U. v. validirostris</i> —Immature | | | |
| One male from "Mendoza" (type of species) | 93 | 84 | 37 $\frac{3}{4}$ |
| <i>U. v. validirostris</i> —Adult males | | | |
| Three from Cerro Muñoz, Tucumán | 95,97 ¹ , 98 | 87, 91, 91 | 38, 38, 39 |
| One from Tafi del Valle, Tucumán | 99 | 90 | 36 |
| <i>U. v. validirostris</i> —Adult females | | | |
| Two from Tafi del Valle, Tucumán | 90, 94 | 83.84 | 34, 37 |
| <i>U. v. pallida</i> —Adult males | | | |
| Two from Tirapata, Peru | 89, 90 | 77, 77 | 31 $\frac{1}{2}$, 32 |
| Two from Lake Titicaca | 85, 88 | 74, 78 | 37, 37 $\frac{1}{2}$ |
| Four from Putre, Tacna | 88, 88, 90, 91 | 75, 78, 79, 80 | 31 $\frac{1}{2}$, 34, 35, 35 |
| <i>U. v. pallida</i> —Adult females | | | |
| Two from Tirapata, Peru | 85, 86 | 71.72 | 31, 33 |
| Two from Lake Titicaca | 86, 89 | 70.77 | 33, 35 |
| One from Putre, Tacna | 88 | 78 | 35 |
| Three from Sacaya, Tarapacá | 86, 86, 90 | 77, 77, 78 | 37, 37, 37 |

107. *Upucerthia albigula* n. sp.

Upucerthia ruficauda (not of Meyen) Allen, Bull. Amer. Mus. N. H., 2, p. 88, 1889—"Valparaiso" (errore).

Upucerthia validirostris pallida (not of Taczanowski) Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 45, 1925—Putre, Tacna (in part).

Range.—Extreme northern Chile in Puna Zone of province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., ♀ ad., June 15, July 7.

Additional specimens.—Tacna: Palca (alt. 10,000 feet), above Tacna, ♀ ad., Oct. 18, 1902. O. Garlepp (Berlepsch Collection, Frankfurt Museum).—Chile: "Valparaiso," one adult. H. H. Rusby (American Museum of Natural History, New York).

Type from Putre (alt. 11,600 feet), Prov. Tacna, Chile, in Field Museum of Natural History, No. 61,094. Adult male. July 7, 1924. C. C. Sanborn.

Characters.—Upper parts deep snuff brown, passing into sepia on pileum; upper wing coverts cinnamon-brown; alula and primary coverts fuscous, the latter cinnamon-brown at base and along outer web; outer primary fuscous, remaining primaries and secondaries bright orange-cinnamon or Mikado brown tipped with fuscous, this color extending down the inner web of the second and third primaries (from without) for a considerable distance; tertials strongly washed with cinnamon-brown; tail decidedly rufous and nearly uniform, the median rectrices being just a little darker, more cinnamon-brown than the orange-cinnamon lateral feathers; broad superciliaries,

widening behind the eye, pinkish buff; auriculars dusky, streaked with buff; cheeks and malar region buff, freckled with dusky; throat white, tinged with light buff posteriorly; feathers of lower throat and foreneck with very distinct, though narrow apical margins of dusky brown, producing a scaly appearance; foreneck and chest deep buff (between pinkish buff and cinnamon-buff), deepening into clay color on sides and under tail coverts and passing into pale pinkish buff in the middle of the breast and abdomen; axillars and under wing coverts pinkish cinnamon. Bill and feet dark horn color. Wing (male), 96. (female), 90; tail 83, (female), 78; bill, 33 mm.

Remarks.—This species bears such a striking superficial resemblance to *U. v. pallida* that, when compiling the "Catalogue of the Birds of the Americas" several years ago, I did not attempt to separate it. More careful study of the material in American and European collections, however, convinced me that the differences cannot possibly be attributed to individual variation, and as *U. v. pallida* and the bird here described occur side by side in northern Chile, the only plausible conclusion is to admit their specific distinctness.

On comparing them with a large series of *U. v. pallida* from southern Peru (Titicaca region) and Tacna (Putre), the two specimens have decidedly stouter, thicker, more arched bills and differ, besides, by their much darker as well as more rufescent coloration. The back is warm snuff brown, passing into sepia on the pileum; the upper wing coverts and the outer margins of the primary coverts are cinnamon-brown and so are the tertials, though slightly duller; the median rectrices are very nearly as rufous (only somewhat darker) as the orange-cinnamon or Mikado brown lateral feathers. In *U. v. pallida* the upper parts are very much paler—between Saccardo's umber and wood brown—and the crown, instead of being darker than the back, is slightly more grayish, while the wing coverts are by no means rufous, but of the same pale brown as the back; the median tail feathers are more or less dusky contrasting with the rest of the tail.

The supercilium, which in *pallida* is rather indistinct and narrow behind the eye, is much wider in the new species, and its color more yellowish, pinkish buff rather than light pinkish cinnamon. On the under parts the differences are even more pronounced. Whereas in *U. v. pallida* the whole ventral surface is nearly uniform pale pinkish buff, *U. albigula* has the throat clear white and the foreneck and chest deep buff (between pinkish buff and cinnamon-buff), deepening into clay color on the sides and lower tail coverts, while the

feathers of the lower throat and foreneck, which in *pallida* show mere suggestions of grayish edges, are marked with well-defined, scaly apical margins of dusky brown. Wings and tail appear to be a little longer in the white-throated species.

In addition to our own specimens, I have examined two others that are referable to the new bird. One, sexed "♀," but probably a male, was collected by Otto Garlepp on October 18, 1902, at Palca (alt. 10,000 feet), above Tacna, hence in the same region,¹ and the second example was secured by Dr. H. H. Rusby somewhere in Chile. It is labeled "Valparaiso, June, 1885," and was listed by the late J. A. Allen as *U. ruficauda*. The locality is undoubtedly incorrect. The specimen is much more likely to have originated from the Andes of Tacna, which Dr. Rusby crossed when traveling from Arica to Bolivia.

All of the four specimens of *U. albigula* have the base of the outer web of the third to the fifth primaries just as bright rufous as the inner web, while there is a distinct dusky streak in every one of the numerous skins of *U. v. pallida* we have examined. *U. albigula* also lacks the sooty blackish margin to the middle remiges just beyond the tips of the wing coverts, the whole outer web being bright rufous. This blackish margin is as a rule well developed in *U. v. pallida*, though we have seen two specimens from Sacaya, Tarapacá, in which it was missing.

More information about the range of *U. albigula*, which may also be expected to occur in the neighboring section of Bolivia, is greatly desired.

108. *Upucerthia ruficauda* (Meyen)

Ochetorhynchus ruficaudus Meyen, Nov. Act. Acad. Caes. Leop.-Carol., 16, Suppl., p. 81, pl. 11, 1834—"Chile, am Fusse des Vulcans von Maipo, auf etwa 10,000 Fuss Hohe," Prov. Santiago (type in Berlin Museum); Sclater (2), 1867, pp. 324, 338—Maipo (ex Meyen).

Upucerthia montana Lafresnaye and d'Orbigny, Syn. Av., 2, in Mag. Zool., 8, cl. 2, p. 22, 1838—Palca, rep. Peruviana = Prov. Tacna (type in Paris Museum examined).²

¹Its measurements are as follows: wing 94; tail 83; bill $33\frac{1}{2}$ mm.

²If d'Orbigny, in the "Voyage" (p. 371), states having met with the species "sur les crêtes et sur les plateaux de la Cordillère de Bolivie et du Pérou, principalement aux environs de La Paz," the last-named locality probably refers to the nearly allied *U. andaecola*, which is the only species of the group occurring in the vicinity of the Bolivian capital. The type (and only specimen) of *U. montana* from d'Orbigny's collection in the Paris Museum has no exact data, being merely labeled "Bolivie," but it agrees in small size and slender bill so closely with a bird from Putre, Tacna, that I believe the original locality as given in the "Synopsis Avium" to be the correct one.

Enicornis striata Allen, Bull. Amer. Mus. Nat. Hist., 2, p. 89, 1889—"Chile, probably Valparaiso" (type in the American Museum of Natural History, New York, examined).

Upucerthia ruficauda Des Murs (2), p. 285—Volcano "San Pedro" [= Maipo], Prov. Santiago (ex Meyen); Philippi (12), p. 251—high Cordilleras of Chile; Sclater (4), 1886, p. 398—Lalcalhuay, Tarapacá; E. Reed (4), p. 202—Tarapacá; Albert (1), 101, p. 45—Tarapacá and Tacna (in part).

Range in Chile.—Puna Zone of the Andes from Tacna to Santiago.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♂ ad., July 4.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), three ♂ ♂ ad., one ♂ imm., April 30, May 1, Oct. 5, 9.—Coquimbo: Baños del Toro (alt. 11,600 feet), four ♂ ♂ ad., two ♀ ♀ ad., Nov. 10–19.

Additional specimens.—Chile: "Valparaiso," one adult (the type of *E. striata*). H. H. Rusby (American Museum of Natural History, New York).—"Bolivia" (probably Palca, Tacna): adult. Type of *U. montana*. D'Orbigny (Paris Museum).—Antofagasta: Ascotan, ♂ ad., March 5, 1847. Behn; Puquios, ♂ ad., March 9, 1847. Behn (Berlin Museum).

For comparison we had a good series from various localities in Bolivia (Mauri River, Dept. La Paz; Oruro; Potosí) and Argentina (Santa Catalina, Jujuy; Lara, Tucumán; Puente del Inca and Horcones Valley, Mendoza) and two specimens from Arequipa, Peru, kindly lent by Mr. N. B. Kinnear and Dr. E. Stresemann from the collections of the British Museum and Berlin Museum. In spite of this fairly large material I am not prepared to say at present if the inhabitants of the Andes from Arequipa in the north to Mendoza in the south are all exactly the same. The discrimination of possible local races is greatly complicated by the seasonal change to which the plumage of this species is subject through wear and bleaching, and it is very hard to assemble a sufficient number of specimens in strictly comparable condition from any part of its range. Taking birds from the Andes west of Mendoza to represent *O. ruficaudus* (described from Volcano de Maipo, Santiago), there seems little doubt that *E. striata* is a pure synonym of Meyen's name, since the type, an adult in fairly fresh plumage, agrees in every particular of coloration as well as in dimensions. The locality "Valparaiso" is doubtless erroneous, this bird being rarely, if ever, found below an altitude of 7,000 feet. Several specimens from Antofagasta (March to May) are evidently inseparable from four Mendoza skins. Two others in worn condition (shot at San Pedro in October) are much paler above and have the posterior under parts much less distinctly

streaked with fulvous; except for the somewhat darker stripes on the flanks, they are identical with a series collected from late August to early October by P. O. Simons at Oruro and Potosi, western Bolivia. Three freshly molted adults from Potosi (early April), however, are very nearly as dark above and as heavily streaked below as those from Mendoza. Six specimens from Baños del Toro, Coquimbo, are in so excessively worn breeding plumage that mere traces remain of the original coloration.

The type of *U. montana*, an adult male from Putre, and a couple of adults from Arequipa are smaller with slenderer bills, and have the stripes underneath of a darker and more rufous brown tone. Although certain other specimens approach them in size, additional material might show these northern birds to be separable, in which case the name *montanus* would become available.

U. ruficauda seems to be restricted to the highest regions of the Andes, most of the birds examined having been obtained at elevations of 10,000 feet and upwards. P. O. Simons, however, secured two at Arequipa, a little over 7,000 feet.

It is closely related to *U. andaecola* Lafr. & d'Orb., from which it mainly differs by straighter bill, whitish superciliaries, ochraceous or tawny rather than dark brown streaking underneath, and by having the inner web of the five lateral rectrices partly or wholly black. The latter character is somewhat variable, and one of the specimens from Baños del Toro, Coquimbo, has an entirely rufous tail, while, on the other hand, certain individuals of *U. andaecola* show slight suggestions of dusky markings. In distribution, they appear to replace each other geographically. *U. ruficauda* inhabits the Andes of Chile, western Argentina, and extreme western Bolivia, particularly the departments of Oruro and Potosi, whereas *U. andaecola* is found in the Cordillera of Cochabamba. In the department of La Paz both seem to occur. From La Paz and Sicasica we have seen numerous typical specimens of *U. andaecola*, and from the Rio Mauri, on the confines of Peru, an adult male (secured by Stöcker on Nov. 12, 1912; Berlin Museum), which is just as typical *U. ruficauda*.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|--|-------|-------|--------|
| One from Arequipa, Peru | 79 | 70 | 25 |
| One from Putre, Tacna | 75 | 67 | 24½ |
| Type of <i>U. montana</i> , "Bolivia"— | | | |
| Palca, Tacna | 77 | 68 | 25 |
| One from Rio Mauri, La Paz, Bolivia | 79 | 70 | 25 |
| Two from Oruro, Bolivia | 84,84 | 74,74 | 24½,26 |

| Adult males | Wing | Tail | Bill |
|--|-----------------------|-----------------------|------------------------|
| Six from Potosi, Bolivia | 83,84,85, 87,87,87 | 73,74,76, 77,78,79 | 25,25,25½, 26,27,28 |
| One from Ascotan, Antofagasta | 82 | — | 25 |
| One from Puquios, Antofagasta | 84 | 74 | 25 |
| Four from S. Pedro, Antofagasta | 80,81, 81,83 | 71,72, 72,— | 26½,27, 27,28 |
| Four from Baños del Toro, Coquimbo | 79,80, 80,82 | — | 25½,26, 27,— |
| One from Sierra de Mendoza | 84 | 78 | 26 |
| Adult females | | | |
| One from Arequipa, Peru | 77 | 69 | 25 |
| Two from Potosi, Bolivia | 79,81 | 68,73 | 25,26 |
| Two from Baños del Toro, Coquimbo | 78,78 | — | 26,26 |
| Type of <i>Enicornis striata</i> , "Chile" | 83 | 73 | 26 |

109. *Cinclodes nigro-fumosus nigro-fumosus* (Lafr. and d'Orb.)

Uppucerthia nigro-fumosa Lafresnaye and d'Orbigny, Syn. Av., 2, in Mag. Zool., 8, cl. 2, p. 23, 1838—Cobija, "Bolivia"—Prov. Antofagasta, Chile (type in Paris Museum examined); d'Orbigny, Voyage, p. 372, pl. 57, fig. 2—Valparaiso, Cobija, and Arica, Chile.

Upucerthia nigro-fumosa Des Murs (2), p. 283—from Coquimbo "to Chiloé" (in part); Albert (1), 101, p. 38—Chile (monog.).

Opetiorhynchus nigrofumosus Darwin, p. 68—Coquimbo; Fraser (1), p. 111—seashore of Chile.

Opetiorhynchus lanceolatus Gould in Darwin, Zool. Beagle, 3, pl. 20, 1839—figure of Darwin's specimen from Coquimbo.

Cinclodes inornatus Lesson, Rev. Zool., 3, p. 267, 1840—Chile; Hartlaub, l. c., 9, p. 1, 1846 (crit.).

*Cinclodes nigrofumosus*¹ Cassin, p. 187—coast of Chile; Sclater (2), 1867, pp. 324, 338—Coquimbo; Ménégau and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 58, 1906—Cobija and Valparaiso (crit.); Gigoux, p. 87—Caldera; Housse (3), p. 226—Isla La Mocha, Arauco.

Upucerthia chilensis (not *Furnarius chilensis* Lesson) Philippi (12), p. 250—coast of Chile (excl. Peru); Landbeck (9), p. 235—sea-cliffs of Chile (habits).

Cinclodes patagonicus (not *Motacilla patagonica* Gmelin) Schalow (2), p. 708—Iquique, Tarapacá, and Isla dos Pajaros, Totoralillo, Coquimbo (spec. examined).

Range in Chile.—Littoral of the northern and central provinces from Arica to Concepción and Arauco (Isla La Mocha).

Material collected.—Antofagasta: Gatico, two ♂♂ ad., April 9, 10.—Atacama: Caldera, five ♂♂ ad., three ♀♀ ad., one ♂ juv., March 21, 27, April 18, May 4, June 8, Sept. 1. C. C. Sanborn and

¹Often spelt "*nigrifumosus*."

E. E. Gigoux.—Aconcagua: Papudo, ♀ ad., Dec. 10.—Concepción: Concepción, near coast, ♂ ad., ♀ ad., April 4-8.

Additional specimens.—Tarapacá: Iquique, adult, Aug., 1893. L. Plate (Berlin Museum).—Antofagasta: Cobija, ♂ ad., Feb. 24, 1847. Professor Behn (Berlin Museum); adult, Jan., 1831. D'Orbigny (type of species; Paris Museum).—Coquimbo: Isla dos Pajaros, Totoralillo, adult, Oct., 1893. L. Plate (Berlin Museum).—Valparaíso: Valparaíso, two adults, one juv., 1830. D'Orbigny (Paris Museum).¹

There is no local variation in this species so far as I can see, specimens from Concepción being identical with those from the extreme north of the range (Iquique, Cobija, Gatico). Young birds are smaller in all proportions and have the under parts of a more rufescent brown tinge with the pale shaft-streaks less pronounced.

Birds taken in December (at Papudo) and February (at Cobija) are in very worn (breeding) plumage. An adult male shot on March 27 (at Caldera) is in full annual molt, while birds obtained early in April (at Concepción and Gatico, Antofagasta) are just finishing that process.

C. nigro-fumosus, a very distinct species, is immediately recognizable among its congeners by its large size, heavy feet and claws, extremely dark, mummy brown dorsal surface, narrow and inconspicuous (light buff or pale ochraceous-buff) superciliaries, and fuscous under parts with abruptly defined whitish shaft-streaks on breast and upper abdomen. The axillaries and under wing coverts are dark brown like the sides, only the carpal edge being light pinkish cinnamon.

The "Churrete" or "Molinero Grande," as this bird is called by the Chileans, ranges from Arica south to Concepción. According to Father Housse, it is even found on the Isla La Mocha, off Arauco.² It inhabits exclusively the cliffs along the seashore, where it is a resident. In spite of its pronounced specific characters it has frequently been confused with other species, to which in fact all records of "*C. nigro-fumosus*" from inland localities pertain.

Landbeck, who misnamed it *U. chilensis*, writes of its habits as follows: "This, the largest species, called Churrete by the natives,

¹Besides, the Paris Museum has a fifth d'Orbignyan skin without original label. This may be the specimen from Arica.

²If Gay extends the range of *U. nigro-fumosa* to Chiloé, this locality most probably refers to *C. p. chilensis*, a species which is there extremely common, whereas *C. nigro-fumosus* has not been found so far south by any of the subsequent collectors.

lives on the cliffs of the Pacific Ocean, where it may be seen single or in pairs sitting on the rocks or searching for food, which consists of small crabs, shrimps, marine worms, and the like. Its song is a loud warble reminding one of the European Dipper (*Cinclus cinclus*).” Gay, although part of his notes evidently refers to *C. p. chilensis*, had no doubt the present species in mind when describing the nesting habits of *U. nigro-fumosa*. According to his observations, these birds mate in October and place the very carelessly made nest among the rocks and steep cliffs. The eggs, three in number, are pure white.

On the Peruvian coast, from Islay to Lima, the present form is replaced by *C. n. taczanowskii*¹ which, notwithstanding its striking characters, appears to be nothing more than a strongly marked geographical race.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|---|-------------------------|--------------------|--------------------|
| Three from Antofagasta (Cobija, Gatico) | 116,117,117 | 86,88,88 | 24,24,25 |
| Five from Caldera, Atacama | 113,114,116, 117,122 | 81,85,85, 88,91 | 23,24,24, 24,25 |
| One from Concepción | 116 | 91 | 24 |
| Immature male | | | |
| One from Caldera | 110 | 82 | 22 |
| Adult females | | | |
| Three from Caldera | 113,113,118 | 83,85,86 | 23,23½,— |
| One from Papudo, Aconcagua | 114 | 88 | 23½ |
| One from Concepción | — | 87 | 23½ |
| Unsexed | | | |
| One adult from Iquique, Tarapacá | 115 | 89 | 23 |
| Two adults from Valparaíso | 114,118 | 82,83 | 24,24 |

110. *Cinclodes patagonicus chilensis* (Lesson)

Furnarius chilensis Lesson, Man. d'Orn., 2, p. 17, June, 1828—"dans les alentours du port Saint-Vincent, au Chile"=Bay of Concepción; idem, Voy. Coquille, Zool., 1, p. 671, April, 1830—St. Vincent, Chile; idem, Traité d'Orn., livr. 4, p. 307, pl. 75, fig. 1, Sept., 1830—Chile.

Certhia chiliensis Garnot, Voy. Coquille, Zool., 1, p. 599, Nov., 1829—"environs de Talcaguana" [=Talcaguano], Chile.

Opetiorhynchos rupestris Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 188, pl. 8, 1830—Chile=San-Tomé, Concepción (type in Leningrad Museum examined); idem, Denkwurd. Reise, 1, p. 117—El Tomé, near Concepción, and Valparaíso.

Cinclodes molitor Scott, Bull. Brit. Orn. Cl., 10, p. XLII, 1900—Chile (type in British Museum examined); see Hellmayr, Nov. Zool., 21, p. 175, 1921 (crit.).

¹Berlepsch and Stolzmann, P. Z. S. Lond., 1892, p. 381—Chorillos, Dept. Lima.

Opetiorhynchus patagonicus (not *Motacilla patagonica* Gmelin) Darwin, p. 67—part, Chiloé Island; Tschudi, p. 6—Punta Arena, Chiloé; Hartlaub (3), p. 211—Valdivia; Pelzeln (2), p. 58—Chile.

Upucerthia chilensis Des Murs (2), p. 281—Chile, also Chiloé Archipelago.

Cinclodes nigrofumosus (not of Lafresnaye and d'Orbigny) Bibra, p. 129—Santiago, Quillota; Germain, p. 310—Chile (breeding habits); E. Reed (2), p. 546—Cauquenes, Colchagua; idem (4), p. 202—Chile; Sclater, Ibis, 1897, p. 38—Hacienda Mansel, s. of Santiago (spec. in British Museum examined); Housse (2), p. 144—San Bernardo, Santiago (nesting); Passler (3), p. 458—Coronel (breeding habits).

Cinclodes patagonicus Lesson, Rev. Zool., 3, p. 267, 1840—Chile; Sclater and Salvin, Ibis, 1869, p. 283—Ancud, Chiloé; Ridgway (2), p. 182—Port Otway, Gulf of Peñas; Lane, p. 37—Hacienda Mansel (Santiago), Corral and Rio Bueno (Valdivia); Passler (3), p. 459—south Chile to Valparaíso; Bullock (4), p. 177—Angol, Malleco; Jaffuel and Pirion, p. 106—Marga-Marga, Valparaíso.

Cinclodes patachonicus Sclater (2), 1867, pp. 324, 338—Chiloé and central Chile; idem and Salvin, P. Z. S. Lond., 1878, p. 433—Port Otway.

Upucerthia nigro-fumosa Des Murs (2), p. 283—part, Chiloé; Philippi (12), p. 251—Chile; Landbeck (9), p. 235—Chile (habits); Lataste (1), p. CXV—Ninhue (Itata), Maule; idem (4), p. XXXIII—Caillihue (Vichuquen), Curicó (spec. in British Museum examined); idem (5), p. LXI—Llohué, Maule; Waugh and Lataste (1), p. LXXXIV—Peñaflor, Santiago (spec. examined); idem (2), p. CLXX—San Alfonso (Quillota), Valparaíso (spec. examined).

Upucerthia patagonica Albert (1), 101, p. 40—part, Chile.

Cinclodes patagonicus molitor Ménégau and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 60—part, spec. a, d, e, Santiago, Peñaflor, San Alfonso, Chile (crit.).

Cinclodes chilensis Reichenow, Journ. Orn., 68, p. 239, 1920—Chile (crit.).

Cinclodes rupestris Barros (4), p. 144—Nilahue, Curicó; idem (5), p. 180—Cordilleras of Aconcagua.

Range in Chile.—Central and southern provinces, from Aconcagua south to the Gulf of Peñas.

Material collected.—Aconcagua: Rio Blanco (alt. circa 5,000 feet), ♂ ad., April 17, 1926. R. Barros.—Valparaíso: Palmilla, La Cruz (alt. 500 feet), two ♀ ♀ ad., Nov. 20, 21, 1924. J. A. Wolffsohn.—Linares: Linares, ♀ ad., June 26, 1923. C. S. Reed.—Concepción: Concepción, near coast, ♂ ad., ♀ ad., April 8.—Malleco: Tolguaca (alt. 3,500 feet), ♀ ad., Jan. 19; Lake Malleco (alt. 3,500 feet), ♂ ad., ♀ ad., Jan. 20.—Cautin: Rio Lolen (alt. 3,600 feet), Lonquimai Valley, ♂ ad., Feb. 12; Lake Gualletué (alt. 3,800 feet), two ♂ ♂ juv., Feb. 15, 18.—Valdivia: Máfil, ♂ ad., Feb. 23; Rifiñhue, one ♂ ad., four ♀ ♀ ad., March 9–23.—Chiloé Island: Rio Inio, two ♂ ♂ imm., Jan. 14, 16; Quellon, three ♂ ♂ ad., one ♂

juv., two ♀ ♀ ad., one ♀ juv., Dec. 25–Jan. 3.—Guaitecas Islands: San Pedro Island, ♂ juv., Jan. 22; Melinka, Ascension Island, three ♂ ♂ imm., Jan. 30–Feb. 1.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♀ ad., Feb. 22.

Additional specimens.—Santiago: Peñaflor, ♂ ad., one (unsexed) adult, Jan. 23, March 7, 1894. F. Lataste (Paris and British Museums); Hacienda Mansel, near Hospital, ♂ ad., three ♀ ♀ ad., Dec., 1889. A. A. Lane (British Museum).—Valparaiso: San Alfonso, Quilota, two ♀ ♀ ad., June 23, 26, 1894. F. Lataste (Paris and British Museums).—Curicó: Caillihue, ♂, ♀, Dec. 22–23, 1894. F. Lataste (British Museum).—Concepción: San-Tomé, adult. H. von Kittlitz (type of *O. rupestris*; Leningrad Museum).—Valdivia: Corral, ♀ ad., Oct. 7, 1890. A. A. Lane (British Museum); Valdivia, ♂ ad., A. von Lossberg (Tring Museum).—Llanquihue: Port Otway, ♂, ♀, adult (unsexed), Jan., Feb., Albatross and Challenger Expeditions (U. S. National and British Museums).—Chiloé Island: Ancud, ♀ ad., May 4, 1914. R. H. Beck (American Museum of Natural History).—"Chile:" ♂ ad. F. Leybold (type of *C. molitor*; British Museum).

As we have pointed out in another connection,¹ the earliest name of the Chilean "Molinero" is Lesson's *F. chilensis* based on a specimen collected by the describer at San Vicente, in the Bay of Concepción, during the voyage of the "Coquille." Birds from Aconcagua south to Concepción agree very well together, and the type of *C. molitor*, presumably from Santiago Province, likewise belongs to that series, which may be regarded as typically representing *C. p. chilensis*. Compared with a fair number from the Straits of Magellan and Cape Horn region, they are smaller, darker above, and slightly more brownish beneath with the whitish streaks narrower and less extended abdominally, while the tips to the lateral rectrices are more strongly tinged with cinnameous. Birds from Valdivia, Chiloé, and the Guaitecas Islands, however, are variously intermediate, and certain specimens hardly differ in coloration from typical *patagonicus*. A single adult from Port Otway I had actually referred to the latter, but two additional examples since examined tend to show that the inhabitants of that region are nearer to the northern form, whose range would thus seem to extend to the Gulf of Peñas, restricting that of *C. p. patagonicus* to the Straits of Magellan and Tierra del Fuego.

¹Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 31, footnote b, 1925.

C. oustaleti, while resembling *C. p. chilensis* in general appearance, is nevertheless readily distinguished by its decidedly smaller size, slenderer (though not always shorter) bill, silky or buffy white, rarely pale grayish-tinged (instead of mostly deep brown) axillaries, less distinctly streaked breast, plain buffy or whitish middle of the abdomen, and by having the under tail coverts merely apically edged or tipped, but never centrally streaked with buffy or whitish. The two birds appear to be specifically distinct, R. Barros having found them breeding side by side at the same altitude in the Cordilleras of Aconcagua.

On comparing a large series of skins, it cannot be denied that birds from the northern provinces (Atacama, Coquimbo, Aconcagua, Valparaiso, Santiago) have the upper parts decidedly brown (varying from warm sepia to bister) and the sides and under tail coverts strongly tinged with rufescent brown, although there is some seasonal variation, specimens in breeding plumage being duller and less rufescent. Birds from Concepción, Temuco, and Chiloé, on the other hand, are much duller, more sooty above, and have less brownish suffusion on the flanks. Some of these southern individuals are not separable from *C. o. hornensis*,¹ of the Cape Horn region. An adult from Talcaguano, Concepción (May), however, is as brown-backed and rufous-sided as any in our northern series. While there is an undeniable tendency to duller coloration in the southern part of the range, the distinction does not seem to be constant enough to warrant the splitting of *C. oustaleti* into two races within Chile proper. I must even confess that I am a little doubtful as to the validity of *C. o. hornensis*. Two of the four specimens examined are admittedly larger than any *C. oustaleti* from Atacama to Chiloé, but the two others differ in neither size nor color from the sooty-backed southern birds. Of course, coloration may turn out to be a more important factor than size for the discrimination of local races, and in that event it may develop that the dull-colored examples from Concepción, Temuco, and Chiloé, all of which were taken in winter-time, were migrants from the Straits of Magellan and should be referred to *C. o. hornensis*. Without more complete information about the migratory movements and a satisfactory series from the southern extremity of South America it is useless to attempt the solution of the problem. Whatever the status of the southern form may be, there is, however, no doubt as to the proper applicability of Scott's name, since the type in the British Museum

¹Dabbene, *Physis*, 3, p. 58, March, 1917—Hermit Island, Cape Horn region.

agrees precisely with the brown-backed birds from Caldera and Coquimbo.

C. o. oustaleti breeds, according to our present knowledge, in the Cordilleras of Coquimbo, Aconcagua, Santiago, and doubtless other provinces of central Chile. From the observations of R. Barros it results that in spring and summer the birds live at considerable altitudes, from 6,500 to 11,000 feet, in the Andes. Early in April they descend to the foothills and plains, and do not return to their breeding grounds until late in August or early in September. The specimens collected by Sanborn in November at Baños del Toro (alt. 10,600 feet), Coquimbo, are in worn plumage and were evidently breeding. Birds taken in the lowlands and near the coast from April to June are all newly molted. In the Nilahue Valley, Curicó, this species occurs only as a rather uncommon winter visitor, but it possibly breeds on the seashore, for several individuals were noticed by Barros at Llico in February. Quite recently, *C. o. oustaleti* has been met with by Wetmore¹ as a regular winter visitant in the vicinity of Mendoza, Argentina.

In the Juan Fernandez Islands occurs a closely allied race, *C. o. baekstroemii*,² which merely differs by brighter rufous-brown flanks and under tail coverts.

MEASUREMENTS

| <i>C. o. oustaleti</i> —Adult males | Wing | Tail | Bill |
|--|-----------------------|-----------------------|------------------------|
| Four from Caldera, Atacama | 91,92,94,94 | 66,70,70,73 | 16,17½,17½,18 |
| Two from Baños del Toro, Coquimbo | 94,95 | 68,70 | 18,20(!) |
| One from Aconcagua (Rio Blanco) | 88 | 65 | 16½ |
| One from Concepción | 92 | 65 | 18 |
| One from Maquehue, Cautín | 90 | 67 | 17 |
| Three from Ancud, Chiloé | 89,90,90 | 63,63,64 | 16,16½,17 |
| <i>C. o. oustaleti</i> —Adult females | | | |
| Six from Caldera | 89,90,92, 92,92,92 | 67,68,70, 70,70,72 | 17,17,17½, 18,18,18 |
| One from Tofo, Atacama | 91½ | 69 | 17½ |
| Two from Baños del Toro | 90,92 | 65,68 | 18,18 |
| One from Santiago | 92½ | 68 | 18 |
| Two from Concepción | 90,90 | 66,67½ | 17,17 |
| <i>C. o. oustaleti</i> —Adults unsexed | | | |
| Two from Valparaíso | 88½,89 | 67,— | 16,17 |
| One (type of <i>C. oustaleti</i>) | 93 | 65 | 17 |
| One from Talcaguano, Concepción | 93 | 69 | — |
| <i>C. o. hornensis</i> —Adult males | | | |
| One from Cape Horn | 100 | 70 | 20 |
| One from London Island | 97 | 67 | — |

¹Bull. U. S. Nat. Mus., 133, p. 252, 1926.

²Lonnberg in Skottsberg, Nat. Hist. Juan Fernandez and Easter Island, 3, p. 4, 1921.

| | | | |
|---|----------|----------|------------------------------------|
| <i>C. o. hornensis</i> —Adult females | Wing | Tail | Bill |
| One from Cape Horn | 93 | 68 | 19 |
| <i>C. o. hornensis</i> —Adults unsexed | | | |
| One from Desolation Island ¹ | 92 | 68 | 15 ¹ / ₂ (!) |
| <i>C. o. baekstroemii</i> —Adults unsexed | | | |
| Three from Mas Afuera | 85,89,93 | 64,66,67 | 17,19,— |

¹Type of *C. schistaceus* Reich.

112. *Cinclodes fuscus fuscus* (Vieillot)

Anthus fuscus Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 26, p. 490, 1818—based on Azara, No. 147, plains of Montevideo and Buenos Aires, also "Paraguay."

Culurus minor Cabanis and Heine, Mus. Hein., 2, p. 24, 1859—Araucana, Chile (type in Heine collection, Halberstadt, examined).

Opetiorhynchus (us) vulgaris Fraser (1), p. 111—Chile; Hartlaub (3), p. 211—Valdivia; Pelzeln (2), p. 58—Chile.

Opetiorhynchus rupestris (not of Kittlitz) Bibra, p. 129—Valparaiso.

Upucerthia vulgaris Des Murs (2), p. 282—Chile; Philippi (12), p. 251—Chile; Landbeck (9), p. 236—part, Chile (habits); Waugh and Lataste (1), p. LXXXIV—Peñaflor, Santiago; idem (2), p. CLXX—San Alfonso (Quillota), Valparaiso; Albert (1), 101, p. 34—Chile.

Cinclodes vulgaris Cassin, p. 187—Chile.

Cinclodes minor Sclater (2), 1867, pp. 324, 338—Chile; Reichenow, Journ. Orn., 68, p. 240, 1920—Chile (crit.).

Cinclodes fuscus E. Reed (2), p. 546—Cauquenes, Colchagua; Sharpe, p. 8—Coquimbo; Salvin (2), p. 424—part, Coquimbo; Oustalet, p. B 63—Talcaguano; E. Reed (4), p. 202—Chile; Ménégau and Heilmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 62—San Alfonso (Quillota) and Talcaguano (crit.); Passler (3), p. 459—Coronel; Housse (1), p. 49—Isla La Mocha, Arauco; idem (2), p. 144—San Bernardo, Santiago; Bullock (4), p. 176—Angol, Malleco.

Cinclodes fuscus fuscus Barros (4), p. 143—Nilahue, Curicó; idem (5), p. 180—Cordillera of Aconcagua; idem (11), p. 315—Ojos de Aguila, Prov. Santiago.

Range in Chile.—From Atacama (Caldera) to the Straits of Magellan.

Material collected.—Atacama: Caldera, ♂ ad., May 21, 1924. E. E. Gigoux.—Coquimbo: Romero, ♀ ad., July 24, 1923.—O'Higgins: San Francisco, ♀ ad., May, 1923. E. C. Reed.—Concepción: Hacienda Gualpencillo, ♂ ad., ♀ ad., April 3, 6; near coast, ♀ ad., April 4. C. C. Sanborn; Concepción, ♀ ad., May 17, 1905. C. S. Reed.—Cautin: Lake Gualletué (alt. 3,800 feet), four ♂♂ ad., one ♂ imm., four ♀♀ ad. and imm., Feb. 4–20.—Llanquihue: Casa de Richards, Rio Ñirehuau, two ♂♂ ad., two ♀♀ ad., Feb. 28, March 17.

Additional specimens.—Atacama: Tofo (sixty miles north of Coquimbo), ♀ ad., Sept. 17, 1916. T. Hallinan (American Museum of Natural History).—Santiago: vicinity of Santiago, two ♂♂ ad., one ♀ ad., July, 1864. R. A. Philippi (U. S. National Museum).—Concepcion: Talcaguano, two adults. Voyage of the "Astrolabe" and "Zélée" (Paris Museum).—"Araucana:" ♂ ad., type of *C. minor* (Heine Collection, Halberstadt).—Valdivia: Valdivia, ♂ ad. A. von Lossberg (Berlepsch Collection, Frankfort Museum).—Llanquihue: Casapangue, ♂ ad., ♀ ad., Nov. 25, 1907. Adolph Lendl (Berlepsch Collection, Frankfort Museum).—"Chile:" one adult. Segeth (Berlin Museum).

Comparison of this series with fifty Argentine skins seems to indicate that *C. minor*, based on a single bird from Arauco, is inseparable. The type is indeed more rufescent brown above, and has the rump and upper tail coverts more brownish, less ashy, than the general run of *C. f. fuscus*, while the under parts are unusually bright brownish buff, approaching clay-color. One of our Concepción birds (No. 61,189, ♀ ad., April 4, 1923) is essentially similar, and two from Lake Gualletué, Cautin, come very close, as far as the intensity of the ventral surface is concerned. Certain specimens from Argentina, notably one from Tucumán (Concepción) and another from Conchitas (Buenos Aires) are, however, just as deeply colored underneath. Two other examples from Concepción and the majority from Cautin are a slight shade more rufescent above than Argentine birds, while below there is complete agreement between the two series. The variation appears too insignificant to maintain the distinctness of the Chilean form. It may be mentioned that the birds from Llanquihue (Casapangue and Rio Ñirehuau) are wholly typical of *fuscus*, even if *C. f. minor* be deemed worthy of recognition. The three skins from the extreme northern part of the range (Coquimbo and Atacama) show no approach to *C. f. albiventris*, of Antofagasta and northwards. An adult bird from an unknown Chilean locality in the Berlin Museum, described by Reichenow as *C. minor*, is an exact intermediate between the two forms, combining the rufous-brown upper parts of *albiventris* with the wholly cinnamonaceous wing-band and the brownish buff under side of *fuscus*.

The "Churrete" is widely diffused throughout Chile from Atacama to the Straits of Magellan. In the northern parts of this extensive range it apparently breeds only in the mountains. Barros found it in the valley of Nilahue, Curicó, only as a winter visitor from May to October, and the same is the case in Angol, Malleco, according to

Bullock.¹ In the Cordillera of Aconcagua the birds arrive on their nesting grounds, which lie between 6,000 and 11,000 feet of elevation, in October and stay there until the end of April, when they repair to the foothills and coastal plains for the winter. From the vicinity of Lake Gualletué (alt. 3,800 feet), we received a series of adults just finishing their annual molt and several young birds in fresh plumage, a fact which, together with the date of capture (February), speaks for their nesting in the region. Waugh and Lataste collected specimens in January and February at Peñafior, on the Rio Mapocho, Prov. Santiago, which may have been breeding.

113. *Cinclodes fuscus albiventris* (Philippi and Landbeck)

Upucerthia albiventris Philippi and Landbeck, Anal. Univ. Chile, 18, (1), p. 731, June, 1861—"vicinity of Arica," i. e. Cordillera of Tacna; idem, Arch. Naturg., 27, (1), p. 290, 1861—same locality; Philippi, Ornith., 4, p. 158—"Atacama, Copacolla" [=Copacoya, Antofagasta]; idem (24), p. 27, pl. 14, fig. 2—"vicinity of Arica."

Cinclodes fuscus (not *Anthus fuscus* Vieillot) Sclater (4), 1886, p. 398—Chumisa, Cueva Negra, and Sacaya, Tarapacá; idem (6), 1891, p. 134—Sacaya; idem, Ibis, 1897, p. 38—Sacaya.

Upucerthia bifasciata (!) Albert (1), 101, p. 43—"Atacama" to Tarapacá (part, var. *albiventris*).

Cinclodes rivularis (not of Cabanis) Allen, p. 88—"Valparaiso," probably northern Chile.

Range in Chile.—Puna Zone of Antofagasta, Tarapacá, and Tacna.

Material collected.—Tacna: Alcérrecá (alt. 10,000 feet), ♀ ad., June 17; Putre (alt. 11,600 feet), two ♂♂ ad., two ♀♀ ad., June 18, 19, July 8; Choquelimpie (alt. 15,000 feet), ♂ ad., ♀ ad., June 21, 23; Chungará (alt. 15,150 feet), ♂ ad., June 25.—Antofagasta: Rio Loa (alt. 7,500 feet), ♂ ad., Sept. 11; San Pedro (alt. 10,500 feet), ♀ ad., April 23; Ojo de San Pedro (alt. 12,400 feet), ♀ ad., May 2; twenty miles east of San Pedro (alt. 12,600 feet), ♀ ad., Oct. 2; Silala (alt. 14,160 feet), Bolivian (Potosi) boundary, ♀ ad., April 26.

Further study of this group leads to the conclusion that the arrangement as set forth in our "Catalogue of Birds of the Americas"² needs considerable modification. There are indeed two races

¹Passler (Journ. Orn., 70, p. 459, 1922) claims to have found the nest of the present species at Coronel, Bay of Concepción, but he probably made a mistake in identifying the parent birds. He seems to be pretty confused regarding the various species of *Cinclodes*. His notes on the nesting habits of *C. nigro-fumosus*, for instance, unquestionably refer to *C. p. chilensis*.

²Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, pp. 36-38, 1925.

of the bird long known under the name of *C. rivularis*, but their limits and ranges have to be readjusted in accordance with the new material now available. Comparison of fifteen specimens from northwestern Argentina (*C. f. tucumanus*) with our fine topotypical series of *albiventris* shows conclusively that there is no difference whatever between these two alleged forms. The upper parts are the same shade, varying from cinnamon-brown to Prout's brown; the wing band is buffy white (nearly pure white in worn plumage), deepening into ochraceous-buff on the secondaries; the sides are strongly washed with fulvous, sometimes approaching clay-color.

A single bird from Potosi is an exact duplicate of the Putre series, and it would thus seem that *C. f. albiventris* ranges from northern Chile all over western and southern Bolivia to northwestern Argentina (Salta and Tucumán).

Birds from southern Peru (Junín and Puno) are somewhat darker, less rufescent above with the wing band whiter, and have the sides of the body less extensively washed with a paler buffy brown. They may be distinguished as *C. f. rivularis* (Cabanis). The variation in the color of the dorsal surface is carried to the extreme in birds from northern Peru, which Zimmer¹ separates under the name of *C. f. longipennis*.

C. f. albiventris differs at a glance from *C. f. fuscus*, of the more southern parts of Chile, by decidedly rufescent brown upper parts, brightest on the rump (grayish in *fuscus*), dark brown (not grayish brown) central tail feathers, much paler and more or less bicolored (instead of uniform cinnamonaceous) wing band, and much more whitish lower surface.

It replaces the typical race in the Puna Zone of the three northern provinces of Chile, its altitudinal range extending from 7,500 to 15,000 feet.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|-----------------------------|--------------|-------------|---------------|
| Four from Tacna | 94,94,98,100 | 66,70,73,75 | 17,17,17,17½ |
| Two from Antofagasta | 92+x,96 | 68,70 | 17,19 |
| One from Potosi, Bolivia | 96 | 67 | 17 |
| Two from Tañi, Tucumán | 98,101 | 73,78 | 17½,18½ |
| Two from Las Pavas, Tucumán | 96,98 | 66,71 | 18,18 |
| Adult females | | | |
| Four from Tacna | 90,98,95,98 | 68,70,72,76 | 17.17½,17½,18 |
| Two from Antofagasta | 91,94 | 70,71 | 16,16 |
| One from Tañi, Tucumán | 95 | 75 | 17½ |
| One from Las Pavas, Tucumán | 95 | 70 | 18 |
| Three from Cachi, Salta | 95,96,98 | 69,72,72 | 16,16,16½ |

¹Field Mus. Nat. Hist., Zool. Ser., 17, p. 339, 1930.

114. *Cinclodes atacamensis atacamensis* (Philippi)

Upucerthia atacamensis Philippi, Anal. Univ. Chile, 14, p. 181, 1857—near San Pedro de Atacama, Antofagasta; idem, Arch. Naturg., 23, (1), p. 263, 1857—same locality; idem, Reise Wüste Atacama, p. 162, Zool., pl. 3, 1860—same locality; idem (12), p. 251—same locality; idem, Ornith., 4, p. 158—"Atacama, Copacolla" [= Copacoya, Antofagasta]; idem (24), p. 26, pl. 13, fig. 1—"Atacama."

Cinclodes bifasciatus Pelzeln (2), p. 58—"Chile"; Sclater (4), 1886, p. 398—Chumisa, Sacaya, and Sibaya, Tarapacá; idem (6), 1891, p. 134—Sacaya; Lane, p. 38—Sacaya; E. Reed (4), p. 202—"Atacama" and Tarapacá; Reichenow, Journ. Orn., 68, p. 238, 1920—Calama, Chile.

Upucerthia bifasciata Albert (1), 101, p. 43—"Atacama" to Tarapacá (in part).

Range in Chile.—Puna Zone, in provinces of Antofagasta, Tarapacá, and Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), ♀ ad., June 18.—Antofagasta: Rio Loa (alt. 7,500 feet), ♀ ad., April 19; San Pedro (alt. 10,500 feet), ♂ ad., Oct. 1; twenty miles east of San Pedro (alt. 12,600 feet), ♂ ad., Oct. 6; Silala (alt. 14,160 feet), Bolivian (Potosi) boundary, ♂ ad., ♀ ad., April 26.

Additional specimens.—Antofagasta: Calama (alt. circa 7,000 feet), ♂ ad. (in annual molt), March 1, 1847. Professor Behn (Berlin Museum).

This fine species is easily distinguished from *C. f. albiventris*, which has the same range in northern Chile, by its much larger size, much heavier bill, entirely white wing band, white (instead of buff) superciliaries, shorter white (not cinnamon-rufous) tips to the lateral rectrices, and by having a conspicuous white patch on the primary coverts. It is hard to understand how Albert could treat it as a mere variety of *C. f. albiventris*.

The specimens from Antofagasta (topotypical of *U. atacamensis*) are nowise different from others taken in Bolivia and Argentina (Mendoza and Jujuy). *C. bifasciatus* Sclater, thus, becomes a synonym of Philippi's earlier term.

Like the preceding species, *C. atacamensis* is an inhabitant of the Puna Zone, from 7,000 feet upwards. Lane found it plentiful throughout the valley of Sacaya, Tarapacá, especially on rocky slopes bordering water. Its note is very peculiar, being a loud screech, followed by a repeated chatter on a lower key. It feeds on insects on the banks and margins of streams and is seldom found very far from water.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|-----------------------|-----------------|-------------|---------------------------|
| Four from Antofagasta | 108,110,112,115 | 80,80,82,86 | 21 ¹ , 23,23,— |
| Two from Antofagasta | 107,109 | 82,84 | 22,22 |
| One from Putre, Tacna | 110 | 83 | 23 |

115. *Chilia melanura melanura* (G. R. Gray)

Enicornis melanura G. R. Gray in Gray and Mitchell, Genera of Birds, 1, p. 133, pl. 41, 1846—locality not stated (the type examined in the British Museum is from Chile); Ménégau and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 64, 1906—Santiago.

Upucerthia phoenicura (not *Eremobius phoenicurus* Gould) Des Murs (2), p. 280—"eastern slope of the Cordilleras between Santiago and Mendoza" (descr. and range in part); Philippi (12), p. 250—high Cordillera of the central provinces (excl. Patagonia).

Enicornis melanura Cassin, p. 88, pl. 21, fig. 1—Chile.¹

Henicornis gouldi Cabanis and Heine, Mus. Hein., 2, p. 24, 1859—"Patagonia" (the type examined in the Heine Collection at Halberstadt is a Chilean trade-skin); Pelzeln (2), p. 59—Chile.

Henicornis melanura Sclater, Cat. B. Brit. Mus., 15, p. 27, 1890—Cordillera of Santiago; E. Reed (4), p. 202—"southern Chile" (excl. Patagonia).

Henicornis phaenicura Albert (1), 101, p. 48—part, "southern" and central Chile.

Chilia melanura Salvadori, Ibis, 1908, p. 454—Chile (crit., synon.).

Henicornis (Chilia) melanura Barros (5), p. 181—Cordillera of Aconcagua (habits).

Chilia melanura melanura Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 52, 1925—Lliu-Lliu, above Limache, Valparaíso (monog.).

Range in Chile.—Confined to the Cordilleras of the central provinces (Valparaíso, Santiago, and Aconcagua).

Material collected.—Valparaíso: Lliu-Lliu (alt. 4,800 feet), above Limache, ♂ ad., Oct. 29, 1924. J. A. Wolffsohn.

Additional specimens.—Santiago: vicinity of Santiago (Cordillera), ♂ ad., ♀ ad., June, July, 1865. R. A. Philippi (U. S. National Museum); Cordillera of Santiago, adult. E. C. Reed (British Museum); Santiago, ♂ imm., ♀ ad. (Paris Museum).—"Chile:" five adults (unsexed), including the type of *E. melanura* (British Museum).—"Central Chile:" three adults. H. Berkeley James Collection (British Museum).—"Patagonia:" ♂ juv., type of *H. gouldi* (Heine Collection, Halberstadt).

The series shows but little variation in coloration. The bird from Lliu-Lliu is much the darkest, having the crown and mantle

¹The plate looks almost like *C. m. atacamae*, but the specimen in the U. S. National Museum, though much soiled and bleached, seems to belong to the typical race.

bister, and the rump, tail coverts, and base of the rectrices nearly chestnut. Only one specimen (from the Cordillera of Santiago) approaches *C. m. atacamae* in the grayish tinge of the breast. Young birds are paler throughout, have the breast-feathers obsoletely spotted with whitish and apically edged with dusky, and the bill shorter with the lower mandible for the greater part wax yellow.

The "Garganta blanca" is one of the least-known Chilean birds. The earlier authors confused it with *Enicornis phoenicura*, which is restricted to the plains of Patagonia, until its characters were clearly set forth by Cassin. Its range appears to be limited to the Cordilleras of central Chile. A good many specimens have been secured in the Cordilleras of Santiago, and J. A. Wolffsohn shot an adult female (in very fresh plumage) at Lliu-Lliu, in a mountain range southeast of Limache, Prov. Valparaiso, at an altitude of 4,800 feet above sea level. R. Barros found it fairly common in the Cordilleras of Aconcagua on brushy hill slopes from 1,600 to 2,000 meters, especially in winter. It is more or less resident, though some individuals descend to the pre-cordillera on the approach of the severe season; around Los Andes (alt. 830 meters) they may be seen throughout the year. Gay's statement—apparently based on Darwin's record¹ of *E. phoenicura*—that it occurs on the eastern slope of the Andes between Santiago and Mendoza certainly refers to some other species, while Edwyn Reed's and Albert's habitat "southern Chile" is an obvious error.

According to Barros, this bird inhabits the declivities and slopes of the mountains, preferring the drier and stony parts. It is of a secretive nature, searching its food among the bushes and thickets. Its flight is short, low, and tardy. The stomachs examined by R. Barros contained (besides a quantity of small stones) seeds, insects, and vegetable matter. Nothing definite is known about its nidification, though Barros remarks that it resembles *Cinclodes* in selecting crevices and holes for its nest.

116. *Chilia melanura atacamae* Hellmayr

Chilia melanura atacamae Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 53, 1925—Domeyko, Atacama.

Range in Chile.—Only known from Domeyko, Prov. Atacama.

Material collected.—Atacama: Domeyko (63 km. south of ValLENar), three ♂♂ ad., one ♀ ad., Aug. 11–15, 1923.

¹Zool. Beagle, 3, p. 70.

This very interesting form, which by its characters reflects the arid nature of its habitat, differs from the typical race at a glance by much paler coloration. The pileum and back are drab (instead of varying from snuff brown to bister), the former with a grayish cast; the rump, upper and under tail coverts, the base of the tail, the outer web of the outermost rectrix, and the wing band hazel rather than chestnut; the upper wing coverts mostly drab, edged with cinnamon-drab, instead of dusky, margined with snuff-brown; the superciliaries more purely white and better defined; the breast decidedly paler and more grayish, though similarly marked with whitish. Besides, the bill is slenderer and slightly shorter.

Four specimens in slightly worn plumage were taken by Sanborn on brushy hill slopes just outside the village of Domeyko at an elevation of about 2,500 feet.

This strongly-marked race replaces *C. m. melanura* in the mountains of Atacama, and will doubtless also be found in the adjacent province of Coquimbo. More information about its distribution is much desired.

MEASUREMENTS

| <i>C. melanura melanura</i> | Wing | Tail | Bill |
|--|----------|----------|---------|
| One adult male from Santiago | 80 | 80 | 23 |
| One adult female from Santiago | 79 | 79 | 25 |
| One adult female from Lliu-Lliu (Valparaiso) | 81 | 77 | 24 |
| Type of <i>C. melanura</i> | 82 | 81 | 23½ |
| <i>C. melanura atacamae</i> | | | |
| Three adult males from Domeyko, Atacama | 81,82,85 | 77,79,84 | 22,23,— |
| One adult female from Domeyko, Atacama | 80 | 77 | 22 |

117. *Sylviorthorhynchus desmursii* Gay

*Sylviorthorhynchus desmursii*¹ Gay, Hist. fis. pol. Chile, Atlas Zoól., Orn., pl. 3, 1847—Chile;² Des Murs (2), p. 316—Province of Valdivia, particularly in the vicinity of Corral; idem, Icon. Orn., livr. 8, l. 6, 1847—Chile; Pelzeln (2), pp. 59, 163—Chiloé Island; Sclater (2), 1867, pp. 324, 338—Chile; Philippi (12), p. 256—Valdivia to Colchagua; E. Reed (2), p. 547—Cauquenes, Colchagua; Landbeck (9), p. 241—Chiloé to Colchagua (habits); E. Reed (4), p. 202—Chiloé, also near Valparaiso; Lane, p. 39—southern Chile (habits); Albert (1), 101, p. 54—Patagonia to Colchagua; Nicoll, Ibis, 1904, p. 46—Gray's Harbor, Mesier Channel; Ménégau and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 65, 1906—Chile (type in Paris Museum); Housse (1), p. 48—Isla La Mocha, Arauco; Pässler (3),

¹ Various spelt *desmursii*, *desmursi*, and *desmursii*.

² The plate published in the Zoological Atlas of the "Historia física y política de Chile" appears to have slight priority over Des Murs's description and figure in the "Iconographie Ornithologique." Generic and specific name should, therefore, be credited to Gay.

p. 460—Coronel (breeding habits); Jaffuel and Pirion, p. 106—Marga-Marga, Valparaíso; Bullock (4), p. 176—Angol, Malleco; Barros (9b), p. 161—Llico, coast of Curicó (April).

Sylviorthorhynchus naluroides Des Murs, Icon. Orn., livr. 8, pl. 45, 1847—Chile; Hartlaub (3), p. 211—Valdivia (crit.).

Sylviorthorhynchus desmursii Boeck, p. 501—Valdivia.

Range in Chile.—From Valparaíso to the Magellan Territory (Gray's Harbor, Mesier Channel, and Smyth's Channel).

Material collected.—Concepción: Hacienda Gualpencillo, three ♂♂ ad., March 27, April 20, 21.—Malleco: Curacautin, ♂ ad., ♀ ad., ♂ juv., Jan. 13–14.—Valdivia: Máfil, one ♂ ad., four ♂♂ juv., Feb. 17–26.—Chiloé Island: Quellon, two ♀♀ ad. (in full molt), Dec. 20, Jan. 1.—Guaitecas Islands: Melinka, Ascension Island, ♂ juv., Feb. 4.—Llanquihue: Rio Aisen, ♂ ad., ♀ ad., April 2.

I cannot discover any constant difference between specimens from Concepción and those from more southern localities. There is much individual variation in the coloration of the under parts, some being bright fulvous buff, while others are much duller, a brownish dark olive-buff. Many have a distinct white area in the middle of the abdomen, which is altogether missing in others.

Birds in juvenile plumage lack the bright rufous frontal patch and have the feathers of the anterior under parts more or less freckled and margined with dusky.

The "Colilarga" is chiefly a denizen of the southern provinces, being particularly abundant in Valdivia Province and on Chiloé Island. Bullock lists it as a fairly common resident in the Angol Valley, Malleco. The most northerly breeding record is from Coronel, Concepción, where, according to Passler, it is rather rare. Farther north, it is merely a winter visitor. Landbeck gives its range as extending north to Colchagua, but Edwyn Reed states that the "Colilarga" is far from being plentiful around Cauquenes in that province. The same naturalist tells us that it sometimes occurs even in the ravines near Valparaíso, a statement that has recently been corroborated by Jaffuel and Pirion, who include it as a rare visitant in the fauna of the valley of Marga-Marga. Barros recently shot a specimen near Llico, Curicó, in April, 1927.

According to Landbeck, these peculiar birds are particularly fond of beech woods, but other observers mention the quila thickets as their favorite haunts. As we are told by Lane, they frequent the densest undergrowth and are rarely seen, as they are very retiring by nature.

They have a somewhat shrill piping note, heard more frequently at sunset and kept up continuously in the same key. Their food mostly consists of small insects. They breed from October to January. The roundish nest is made of dry leaves, lined inside with soft grasses and feathers, and provided with a lateral entrance-hole. It is usually placed in bushes from three to six feet above the ground, and contains two to four dull white eggs with smooth shell.

[*Sylviorthorhynchus fasciolatus* F. Philippi (Bol. Mus. Nac. Chile, 1, No. 3, p. 65, 1909—Valdivia) was shown by Gigoux and Looser (Bol. Mus. Nac. Santiago, 13, p. 15, 1930) to have been based on an artifact, made up from the body of the Chilean Marsh-wren (*Cistothorus platensis hornensis*) and the tail of *Sylviorthorhynchus desmursii* Gay.]

118. *Aphrastura spinicauda spinicauda* (Gmelin)

Motacilla spinicauda Gmelin, Syst. Nat., 1, (2), p. 978, 1789—based on "Thorn-tailed Warbler" Latham, Gen. Syn. Bds., 2, (2), p. 463, No. 71, pl. 52, Tierra del Fuego.

Synallaxis tulinieri Lesson, Man. d'Orn., 1, p. 281, 1828—Prov. Concepción, Chile; idem, Voy. Coquille, Zool., 1, livr. 10, pl. 29, fig. 1, April, 1829; livr. 15, p. 665, April, 1830—Concepción.

Oxyurus ornatus Swainson, Anim. Menag., p. 324, Dec., 1837—Chile.

Oxiurus patagonicus Lesson, Rev. Zool., 5, p. 135—Chiloé Island (new name for *Motacilla spinicauda* Gmelin).

Oxyurus tulinieri Darwin, p. 81—part, west coast as far north as a degree south of Valparaiso.

Synallaxis spinicauda Fraser (1), p. 112—Chile; Des Murs (2), p. 292—Chile; Philippi (12), p. 253—Chile; Landbeck (9), p. 237—Chile (habits); Lataste (1), p. CXV—Ninhue (Itata), Maule; Waugh and Lataste (2), p. CLXX—San Alfonso (Quillota), Valparaiso.

Oxyurus spinicauda (us) Hartlaub (3), p. 211—Valdivia; Sclater (2), 1867, pp. 324, 338—Chile; Pelzein (2), p. 59—Chile; Sclater and Salvin (3), 1878, p. 433—Port Otway; E. Reed (2), p. 547—Cauquenes, Colchagua; Ridgway (2), p. 132—Port Otway; E. Reed (4), p. 202—central provinces; Lane, p. 38—Maquegua, Arauco; Albert (1), 101, p. 50—part, Chile; Housse (1), p. 48—Isla La Mocha, Arauco; idem (2), p. 144—Dept. Maipo and San Bernardo, Santiago; Jaffuel and Pirion, p. 106—Marga-Marga, Valparaiso; Bullock (3), p. 124—Nahuelbuta, Malleco; idem (4), p. 176—Angol, Malleco.

Aphrastura spinicauda Passler (2), p. 29—Coronel (nest and egg descr.); idem (3), p. 459—Coronel, Concepción (habits); Barros (4), p. 144—Nilahue, Curicó; idem (6), p. 34—hacienda de Huelquen, near Paine, Prov. O'Higgins (October); idem (10), p. 357—Aconcagua.

Range in Chile.—From Aconcagua to the Straits of Magellan, including the Guaitecas Islands, but not on Chiloé Island.

Material collected.—Maule: Pilen Alto (eight miles west of Cauquenes), ♀ ad., May 10.—Malleco: Curacautin, two ♂♂ ad., one ♀ ad., one ♀ juv., Jan. 10–13.—Cautin: Villa Portales (alt. 3,300 feet), three ♂♂ ad., Feb. 29, March 1; Rio Lolen (alt. 3,600 feet), Lonquimai Valley, ♂ ad. (in full molt), Feb. 11.—Valdivia: Máfil, five ♂♂, two ♀♀ ad., Feb. 16–28.—Guaitecas Islands: Melinka, Ascension Island, ♂ ad., Jan. 31.—Llanquihue: Casa de Richards, Rio Ñirehuau, three ♂♂ ad., Feb. 18, March 1, 8.

Having had the opportunity of examining a fair series from Tierra del Fuego, I am unable to maintain the tentatively suggested Chilean race as distinct. Neither of the characters claimed by Oustalet¹ for the southern birds holds good, when specimens in corresponding plumage are compared. The single example from Ascension Island in the Guaitecas group is perfectly similar to mainland birds, and does not show any approach to the ochreous-bellied Chiloé form.

A. masafuerae (Philippi), of Mas Afuera, seems too different to be subspecifically associated.

The "Rayadito" is a characteristic bird of the southern forests. Bullock lists it as a common resident for the Angol Valley, Malleco, and its breeding range extends at least to Concepción, where several nests were found by Pässler. Whether the records from farther north refer to breeding birds or migratory individuals is uncertain. In the Nilahue Valley, Curicó, Barros tells us, it is merely a winter visitor, arriving from the south in April and departing again in August and September. Lataste shot specimens in the third week of the latter month at Ninhue, Maule, and others in June at San Alfonso, Valparaíso, all of which might have been on migration. Other records from Colchagua (Edwyn Reed), O'Higgins (Barros), Santiago (Housse), and Valparaíso (Jaffuel and Pirion) are not conclusive either. In Aconcagua, Barros tells us, it is a very rare migratory visitant.

These birds are said to feed like tits, and to have a piping call-note, also some chattering and twittering utterances, which are frequently heard. Sometimes large flocks are seen in the forest feeding low down and often on the ground, searching amongst dead leaves or decayed wood for insects; as a rule, the birds are, however, arboreal. According to Pässler, they have two broods, one about mid-October, the second two months later. Nests were found in

¹Miss. Scient. Cap Horn, Zool., 6, p. B 69, 1891.

holes of trees, more frequently in thickets where dead leaves had accumulated. The nest is a loose structure of roundish or cylindric shape, and contains two or three¹ smooth, dull white eggs.

119. *Aphrastura spinicauda fulva* Angelini

Aphrastura fulva Angelini, Boll. Soc. Zool. Ital., (2), 6, p. 277, 1905—Ancud, Chiloé Island; idem, l. c., (2), 7, p. 96, 1906—Chiloé (crit.).

Oxyurus tupinieri (not *Synallaxis tupinieri* Lesson) Darwin, p. 81—part, Chiloé Island.

Range.—Confined to Chiloé Island.

Material collected.—Chiloé Island: Quellon, four ♂♂ ad., one ♂ juv., six ♀♀ ad., Dec. 20–Jan. 5.

The series differs from *A. s. spinicauda* by having the entire under parts, including the cheeks and malar region, deep ochraceous, only the chin and upper throat being sometimes buffy whitish. The wide superciliaries are, as a rule, somewhat deeper ochraceous than in the typical race, and the back is on average more rufescent.

The juvenile plumage, like the corresponding stage of *spinicauda*, has a number of narrow dusky cross-bars on the back and a few similar, though more obsolete, markings on the foreneck and sides; the under parts are, however, just as deeply ochraceous as in the adults.

All of our specimens are molting, and, while some have already renewed the flight-quills, others still wear part of the abraded breeding plumage.

A. s. fulva is the only endemic form of Chiloé Island. Its peculiarly restricted range offers a singular problem in distribution.

MEASUREMENTS

| <i>A. s. spinicauda</i> —Adult males | Wing | Tail | Bill |
|--|---------------------|-------------------|----------------------|
| One from Ascension, Guaitecas Islands | 59½ | 76 | 13 |
| Three from Llanquihue | 59,62,62 | 73,78,79 | 11½,12,12 |
| Five from Valdivia | 54,56,58, 58½,60 | 70,70,75, 76,— | 11,11½,11½, 12,12 |
| <i>A. s. spinicauda</i> —Adult females | | | |
| One from Valdivia | 57 | 69 | — |
| One from Malleco | 56 | 77 | 11½ |
| One from Maule | 58 | 80 | 11 |
| <i>A. s. fulva</i> —Adult males | | | |
| Two from Chiloé | 59,59 | 74,74 | 11,11 |
| <i>A. s. fulva</i> —Adult females | | | |
| Two from Chiloé | 56,57 | 71,76 | 11,12 |

¹ According to Bullock, the clutch consists of from four to six eggs.

120. *Phleocryptes melanops melanops* (Vieillot)

Sylvia melanops Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 11, p. 232, 1817—based on Azara, No. 232, Paraguay; Housse (2), p. 144—San Bernardo, Santiago.

Oxyurus melanops Fraser (1), p. 112—Chile.

Synallaxis melanops Des Murs (2), p. 293—Chile (ex Bridges); Pelzeln (2), p. 59—Chile; Philippi (12), p. 253—Chile; Landbeck (9), p. 238—Chile (habits).

Synallaxis dorsomaculata Cassin, p. 188—interior of Chile; Germain, p. 310—Prov. Santiago (breeding habits).

Phleocryptes melanops Sclater (2), 1867, pp. 324, 338—Chile; E. Reed (2), p. 547—Cauquenes, Colchagua; idem (4), p. 202—central provinces; Schalow (2), p. 706—Lake Llanquihue (eggs descr.); Albert (1), 101, p. 231—Chile (monog.); Barros (4), p. 144—Ñilahué, Curicó; Jaffuel and Pirion, p. 107—Marga-Marga, Valparaíso.

Synallaxis (Phleocryptes) melanops Philippi, Anal. Univ. Chile, 91, p. 669—Chile; idem (24), p. 34, pl. 15, fig. 2—Chile.

Synallaxis montana Philippi, Anal. Univ. Chile, 91, for Dec., 1895, p. 673, 1896—Chile; idem (24), p. 33, pl. 15, fig. 1—Chile.

Phleocryptes m. melanops Passler (3), p. 460—Coronel (nesting habits).

Range in Chile.—Central and southern provinces, from Valparaíso to Llanquihue.

Material examined.—Santiago: Vicinity of Santiago, ♀ ad., July, 1865. R. A. Philippi (U. S. National Museum); ♂ ad., no date. R. A. Philippi (Museum of Comparative Zoology, Cambridge).—Valdivia: Valdivia, ♂ ad., Dec., 1924. F. Ohde (Munich Museum).—Chile (unspecified): ♀ ad., two (unsexed) adults. J. M. Gilliss and E. C. Reed (U. S. National Museum).

The few Chilean specimens, which we have been able to examine, are not different from a large series of Argentine and Uruguayan skins. *S. montana* was evidently based on worn examples lacking the median rectrices.

The "Trabajador" is a widely distributed resident in central and southern Chile, but owing to its secretive habits is often overlooked. There are various breeding records from Santiago, Colchagua, Curicó, Concepción, and Llanquihue. It inhabits the reed-thickets and rush-beds around the borders of lagoons, marshy meadows, and similar wet places. According to Hudson, its language is peculiar, this being a long cicada-like note, followed by a series of sounds like smart taps on a piece of dry wood. It is often found in company of the Many-colored Tyrant (*Tachuris r. rubrigastra*), and,

¹Frequently spelt "*Phleocryptes*."

like this little neighbor, it is an expert nest-builder. The nest is a wonderful structure, and is usually attached to three upright stems; it is domed, oval-shaped, about nine inches deep, and the small circular aperture, which is close to the top, is protected by a sloping tile-like projection. It is built of tough grass-leaves, which are first daubed with wet clay and then ingeniously woven in, and the interior is thickly lined with feathers. The three (seldom four) eggs are pear-shaped, and bright blue or greenish blue. Pässler, who found many nests at Coronel, states that the birds have two broods, the first taking place between the end of September and mid-October, the second in the latter part of December.

Outside of Chile, the "Trabajador" occurs in southern Brazil, Paraguay, Uruguay, and throughout the greater part of Argentina, and reappears again on the littoral of Peru.

121. *Phleocryptes melanops schoenobaenus* Cabanis and Heine

Phleocryptes schoenobaenus Cabanis and Heine, Mus. Hein., 2, p. 26, 1859—Lake Titicaca, Peru (type in Heine Collection, Halberstadt, examined).

Phleocryptes melanops schoenobaenus Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 59, 1925—Chintagui, Tarapacá.

Range in Chile.—Extreme northern section, in province of Tarapacá.

Material collected.—Tarapacá: Chintagui, Quebrada de Quisma (alt. 4,000 feet), two ♂♂ ad., May 24.—Wing 59, 60; tail 55; bill $17\frac{1}{2}$, —.

Although no topotypical material in fresh plumage is available, there can be little doubt that these birds should be referred to the little-known Titicacan race of the "Trabajador." Compared with four worn breeding adults from Lake Titicaca, the two specimens agree in the long slender bill, and the under parts are deep isabella color with very little whitish suffusion on the throat and middle of the abdomen. Remains of this color are still discernible in the type and one of the other Peruvian examples. In the type the superciliaries are worn down to the grayish basis, but birds in better plumage have them very nearly as bright buffy as in *P. m. melanops*.

The Tarapacá birds are smaller and the dull isabella color superciliaries are less pronounced than in Peruvian specimens, but these slight divergencies are likely to disappear in a larger series of this notoriously variable form.

P. m. schoenobaenus is an altitudinal representative of the typical race in the highlands of southern Peru, extreme northern Chile, and Bolivia.

122. *Leptasthenura aegithaloides aegithaloides* (Kittlitz)

Synallaxis [sic] *aegithaloides* Kittlitz, Mem. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 187, pl. 7, 1830—on the hills near Valparaiso (type in Leningrad Museum; cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 16, 1921); idem, Denkwurd., 1, pp. 135, 147—near Valparaiso.

Synallaxis thelotii Lesson, Rev. Zool., 3, p. 99, 1840—"l'Amérique méridionale."

Leptasthenura fuscescens Allen, Bull. Amer. Mus. N. H., 2, p. 90, 1889—"Falls of the Rio Madeira, Bolivia," errore = Valparaiso, Chile (type in American Museum of Natural History, New York, examined).

Synallaxis (Leptasthenura) stenoptila Philippi, Anal. Univ. Chile, 91, for Dec., 1895, p. 673, 1896—Andes of Santiago Province; idem (24), p. 38, pl. 18, fig. 2—same locality.

Synallaxis aegithaloides Eyndoux and Gervais (1), text to pll. 62-76, p. 32—Chile; idem (3), Voy. Favorite, Zool., 5, (2), p. 58—Chile; Darwin, p. 79—part, central Chile; Fraser (1), p. 112—Chile; Bibra, p. 129—near Valparaiso; Pelzeln (2), p. 59—Chile.

Synallaxis aegithaloides d'Orbigny, p. 243—part, Valparaiso; Des Murs (2), p. 289—Valparaiso and Cordillera of Santiago; Germain, p. 310—Chile (habits); Philippi and Landbeck (11), p. 120—Chile (diag.); Philippi (12), p. 252—Chile generally; Landbeck (9), p. 237—Chile (habits); Waugh and Lataste (1), p. LXXXIV—Peñaflor, Santiago; idem (2), p. CLXX—San Alfonso (Quillota), Valparaiso.

Leptasthenura aegithaloides Sclater (2), 1867, pp. 324, 338—Chile; Salvin (2), p. 424—Coquimbo; E. Reed (2), p. 547—Cauquenes, Colchagua; idem (4), p. 202—Chile; Lane, p. 39—part, Hacienda Mansel (Santiago) and Arauco (habits); Albert (1), 101, p. 235—Chile (monog.); Ménégau and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 66—part, spec. a-c, f, i-m, Coquimbo, San Alfonso, "Chile"; Porter (4), p. 30 (food); Barros (4), p. 145—Ñilahue, Curicó; Housse (2), p. 143—San Bernardo, Santiago; Bullock (3), p. 124—Nahuelbuta, Malleco; idem (4), p. 176—Angol, Malleco; Jaffuel and Pirion, p. 106—Marga-Marga, Valparaiso.

Leptasthenura aegithaloides aegithaloides Hellmayr, Nov. Zool., 27, p. 261, 1921—part, Coquimbo, Valparaiso, Quillota, Concepción, Valdivia; Passler (3), p. 462—Coronel (breeding habits); Barros (5), p. 182—Cordillera of Aconcagua; Wetmore (3), p. 257—Concon, Valparaiso.

Range in Chile.—Central and southern provinces, from Coquimbo to about 45° S. latitude.

Material collected.—Coquimbo: Romero, ♀ ad., July 18.—Valparaiso: Olmué, ♂ ad., ♀ ad., May 31, June 3.—Concepción: Hacienda Gualpencillo, two ♂♂ ad., three ♀♀ ad., April 6-18.—Malleco: Rio Colorado (alt. 3,000 feet), ♂ ad. (breeding), Feb. 3.—Chiloé Island: Quellon, ♂ juv., ♀ ad., Jan. 4.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♂ ad., ♀ ad., ♀ juv., Feb. 16, March 17.

Additional specimens.—Valdivia: Valdivia, three ♂♂ ad., 1897. A. von Lossberg (Munich Museum and Berlepsch Collection, Frank-

fort Museum).—Chile: "Valparaiso," one (unsexed) adult. "June, 1885." H. H. Rusby (type of *L. fuscescens*; American Museum of Natural History, New York).

With the available material I do not see any possibility of further subdividing this form. *L. fuscescens*, originally supposed to have come from the "falls of the Rio Madeira" in the Amazonian lowlands of northern Bolivia, a most unlikely locality for a Temperate Zone species, seems to be an absolute synonym of *L. aegithaloides*. One of the types,¹ A. M. N. H. No. 30,735, which was courteously submitted to my inspection, agrees closely with two typotypical examples from Valparaiso, and I have little doubt that it actually came from that vicinity. Another obvious synonym is *L. stenoptila*, based on two birds from near Santiago. The description, "Supra omnino nigro-cinerea, capite albo striato," is clearly erroneous, as results from the published figure which shows a bird of the ordinary type, viz. with brown back and rufescent crown-stripes. Both specimens were in molt, according to Philippi, and from his remarks it is evident that the male still wore the old, abraded rectrices, while the tail was only half-grown in the female.

Birds from southern Chile (Concepción to Chiloé) appear to be slightly darker brown above with the crown-stripes deeper rufous, and the fulvous suffusion on the flanks is as a rule darker as well as more extensive. Our single specimen from Romero, at the northern limit of the range, however, hardly differs from some of the Concepción birds save for its lighter crown-streaks. In the extreme south of its distributional area this form grades into *L. a. pallida*. The specimens from Rio Ñirehuau are noticeably paler than those from farther north, and approach the Patagonian race by more grayish brown back as well as by lighter crown and wing-margins, but taken as a whole they seem better referred to *aegithaloides* than to *pallida*.

The "Tijerita" is widely diffused in Chile, ranging from the sea-coast up to an elevation of 6,000 to 7,000 feet in the Cordilleras. It is said to resemble the tits in habits. Its note is a mere twit, but sometimes a querulous chattering, somewhat like that of *Parus major* but shriller, is uttered. It feeds on insects and builds its nest in the tangle of vines. The nest is a roundish structure, made of dry grass-leaves lined inside with soft grass and feathers, and has a lateral aperture. The clutch consists of three or four smooth, gloss-

¹The wing measurement is misprinted in Allen's description. It should read 59 instead of 83 mm.

less, white eggs. According to Pässler, there are two broods, one about mid-October, the second towards the end of December.

123. *Leptasthenura aegithaloides grisescens* Hellmayr

Leptasthenura aegithaloides grisescens Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 61, 1925—Gatico, coast of Antofagasta, Chile.

Synallaxis aegithaloides (not of Kittlitz) Lafresnaye and d'Orbigny, Syn. Av., 1, p. 23—part, Cobija; d'Orbigny, p. 243—part, Cobija (spec. in Paris Museum examined).

Leptasthenura aegithaloides Sclater and Salvin, P. Z. S. Lond., 1879, p. 620—part, Cobija; Ménégau and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 66—part, spec. d, e, Cobija.

Leptasthenura aegithaloides aegithaloides Hellmayr, Nov. Zool., 28, p. 261, 1921—part, spec. a, b, Cobija.

Leptasthenura aegithaloides Gigoux, p. 86—Caldera, Atacama.

Range in Chile.—Littoral and foothills of northern provinces, from Atacama to the Peruvian boundary; in winter occasionally in Coquimbo Province.

Material collected.—Coquimbo: Paiguano (alt. 3,300 feet), ♀ ad., June 19.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., ♀ ad., Aug. 22–23; Caldera, six ♂♂ ad., four ♀♀ ad., March 21–27, April 4–21, June 4–6, Sept. 16, 1924. C. C. Sanborn and E. E. Gigoux; Domeyko (63 km. south of Vallenar), ♂ ad., Aug. 15.—Antofagasta: Gatico, ♂ ad., April 10.—Tarapacá: Chintaguai, Quebrada de Quisma (alt. 4,000 feet), ♂ ad., May 24.

Additional specimens.—Antofagasta: Cobija, two (unsexed) adults. D'Orbigny (Paris Museum).

This northern race differs from the typical one by its paler coloration throughout. The crown-stripes are broader and lighter, cinnamonaceous rather than hazel; the back is grayish brown instead of dusky brown with the rump buffy brown rather than wood brown; the edges to the wing coverts and quills are markedly lighter rufous; the breast and abdomen are paler grayish, and the flanks less strongly washed with buffy.

A single specimen (in very fresh plumage) from Paiguano, in the interior of Coquimbo Province, while slightly browner above, otherwise agrees so well that I cannot but refer it to the present form, while a bird from Romero, near the coast, undoubtedly belongs to typical *aegithaloides*. The Paiguano bird, taken in mid-winter, may have been a migrant from the north.

L. a. grisescens evidently replaces *aegithaloides* in the arid northern provinces of Chile. Its range extends into southern Peru, as is shown

by two skins from Islay, Dept. Arequipa, in the British Museum. It is strictly a lowland bird, whose altitudinal distribution does not reach much beyond 4,000 feet. The Chintagui bird is precisely similar to others from the coast.

124. *Leptasthenura aegithaloides berlepschi* Hartert

Leptasthenura aegithaloides berlepschi Hartert, Nov. Zool., 16, p. 210, 1909—Augusto Pericheli, Jujuy, Argentina.

Synallaxis aegithaloides (not of Kittlitz) Philippi, Ornith., 4, p. 158—Antofagasta.

Leptasthenura aegithaloides Sclater (4), 1886, p. 398—Huasco, Tarapacá; idem (6), 1891, p. 135—Sacaya, Tarapacá; Lane, p. 39—part, Sacaya.

Range in Chile.—Puna Zone of Antofagasta, Tarapacá, and Tacna.

Material collected.—Tacna: Choquelimpie (alt. 15,000 feet), ♀ ad., June 24.—Antofagasta: Rio Loa (alt. 7,500 feet), ♂ ad., ♀ ad., Sept. 12; Ojo de San Pedro (alt. 12,400 feet), ♂ ad., May 2.

Additional specimens.—Tarapacá: Sacaya, two ♂♂ ad., April 2, 18, 1890. A. A. Lane; Huasco, ♂ ad., ♂ juv., Feb. 17, 1886. C. Rahmer (all in the British Museum).

This well-marked form is easily recognizable from *L. a. grisescens* by its much more buffy coloration, the back being sandy brown, the edges to the wing coverts and secondaries avellaneous rather than cinnamon, the wing-speculum paler, less tawny, the tips to the lateral rectrices tinged with buffy, and the entire under parts (posterior to the foreneck) deep buffy without any grayish on the chest. The crown-stripes are even brighter cinnamonaceous than in *grisescens* and at the same time broader, under simultaneous reduction of the lateral blackish borders. Wing and tail measurements are on average larger.

Birds from the Cordillera of Tarapacá in the British Museum are similar to our series.

L. a. berlepschi is an altitudinal representative of the preceding form, and replaces it in the Puna Zone of the Andes. We have seen that at Chintagui (4,000 feet), in the foothills of the Andes near Pica, Tarapacá, Sanborn secured a specimen of *L. a. grisescens*, but at Sacaya (alt. 12,000 feet), in the Cordillera of Tarapacá, Lane met with *L. a. berlepschi*. Again, in Antofagasta, at Gatico on the coast we find *L. a. grisescens*, higher up at Rio Loa (7,500 feet) *L. a. berlepschi*.

According to Lane, this species is resident in the Andes of Tarapacá.

MEASUREMENTS

| <i>L. a. grisescens</i> —Adult males | Wing | Tail | Bill |
|--|------------|------------|-----------|
| One from Islay, Peru | 63 | 95 | 9 |
| One from Chintaguai, Tarapacá | 58 | 86 | 9½ |
| One from Gatico, Antofagasta | 62 | 98 | — |
| Three from Caldera, Atacama | 57, 58, 61 | 89, 90, 95 | 9½, 9½, — |
| One from Copiapó Valley | 57 | 89 | 8¾ |
| One from Domeyko, Atacama | 61 | 89 | 9 |
| <i>L. a. grisescens</i> —Adult females | | | |
| One from Copiapó Valley | 54 | 85 | 8½ |
| One from Paiguano, Coquimbo | 57 | 94 | 9 |
| <i>L. a. berlepschi</i> —Adult males | | | |
| Three from Cordillera of Tarapacá | 62, 65, 71 | 89, 99, — | 8, 9, 9½ |
| Two from Antofagasta | 64, 66 | 89, 92 | 8½, — |
| <i>L. a. berlepschi</i> —Adult females | | | |
| One from Antofagasta | 60 | 90 | — |
| One from Choquelimpie, Tacna | 63 | — | 9 |

125. *Leptasthenura striata striata* (Philippi and Landbeck)

Synallaxis striata Philippi and Landbeck, Anal. Univ. Chile, 19, p. 609, Nov., 1861—probably Cordillera near Tacna, coll. Froben; idem, Arch. Naturg., 29, (1), p. 119, 1863—"Cordillera of Arica, Peru" = Prov. Tacna.

Leptasthenura aegithaloides (errore) Scater, Cat. B. Brit. Mus., 14, p. 35, 1890—part, spec. r, "Iquique," Tarapacá (spec. examined).

Leptasthenura striata striata Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 67, 1925—Chintaguai, Tarapacá, and Putre, Tacna.

Range in Chile.—Extreme northern section, in provinces of Tarapacá and Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), three ♂♂ ad., two ♀♀ ad., June 17, July 3, 7.—Tarapacá: Chintaguai, Quebrada de Quisma (alt. 4,000 feet), two ♂♂ ad., May 24.

Additional specimens.—Tacna: Palca (alt. 10,000 feet), ♂ ad., Oct. 17, 1902. O. Garlepp (Berlepsch Collection; Frankfurt Museum).—Tarapacá: Abricoya, above Iquique, juv. H. Rowland (British Museum).

This spine-tail, while somewhat related to *L. pileata* Scater,¹ of western Peru, may readily be distinguished by much paler (cinnamon to Mikado brown rather than deep hazel) pileum which, besides, is heavily streaked with black; paler brown ground color of the back with more buffy longitudinal stripes; much more extensive and wholly tawny or hazel wing-speculum; smaller as well as less numerous blackish spots on throat and foreneck, and much paler, less grayish under parts. The grayish apical zone of the lateral

¹P. Z. S. Lond., 1881, p. 487—west side of Coast Cordillera above Lima, 8,000 feet, Peru.

rectrices, less abruptly defined against the dusky basal portion than in the allied species, is conspicuously tinged with buffy, especially on the outer web, and obscured by numerous irregular dusky streaks and dots. The base of the lower mandible is distinctly yellow, as in *L. pileata*.

The series exhibits some individual variation in the ground color of the pileum, which, regardless of locality, ranges from orange-cinnamon or Mikado brown to pinkish cinnamon, being, however, always heavily streaked with blackish. The under parts, excepting the white, black-spotted throat and foreneck, are very pale grayish, sometimes faintly shaded with buff, and the breast is coarsely, though indistinctly spotted or streaked with whitish. The edges to the upper wing coverts and inner secondaries are bright avellaneous or light pinkish cinnamon. An immature bird from Abricoya, inland of Iquique, differs from the adults by having the buffy dorsal stripes as well as their dusky lateral margins less marked, while the blackish spots on throat and foreneck are barely suggested.

Six adult males measure as follows: wing 63, 64, 65, 65, 67, 67; tail (central rectrix) 96–98; graduation of tail 59–64; bill 10–11.—Two females: wing 60, 63; tail 91–96; bill $9\frac{1}{2}$ –10 mm.

L. s. striata, according to our present knowledge, seems to be restricted to the Andes of northern Chile,¹ its altitudinal range extending from 4,000 to nearly 12,000 feet.

¹Birds from western Peru, heretofore united to *L. striata*, prove to be different and may be separated as:

Leptasthenura striata superciliaris subsp. nov.

Type from Surco (alt. 2,050 meters), Dept. Lima, Peru, in British Museum (Natural History), Reg. No. 1902.3.13.1072. Adult female. February 13, 1900. Percy O. Simons.

Adult.—Similar to *L. s. striata*, from northern Chile, but ground-color of pileum brighter, cinnamon-rufous; dorsal streaks wider and nearly white; superciliaries much more distinct and pure white, instead of evanescent and buffy; breast and abdomen paler, less tinged with grayish; apical zone of rectrices pale gray (not buffy) without dusky markings and sharply defined from the blackish basal zone.

Wing $61\frac{1}{2}$, (female) 61; tail (central rectrix) 96, (female) 95; graduation of tail 60–66; bill 10 mm.

Range.—Western slope of Coast Cordillera of Peru in Dept. of Lima.

Remarks.—In addition to the type, we have examined an adult male taken by R. H. Beck on May 30, 1913, at Lima in the collection of the American Museum of Natural History, New York. It merely differs by darker (hazel instead of tawny) alar speculum and brighter, cinnamon rather than avellaneous, edges to the upper wing coverts, divergencies that are apparently due to its being in fresher plumage.

Through the courtesy of Mr. N. B. Kinnear I have been enabled to compare five specimens of the rare *L. pileata*, hitherto only known from the type. The study of this series in conjunction with the available material of the allied forms clearly shows that the arrangement proposed in our "Catalogue of Birds of the Americas" does not correctly express the natural relationship of these spine-tails. The plain hazel pileum of *L. pileata* is evidently a character of secondary importance,

126. *Asthenes pyrrholeuca sordida* (Lesson)

Synallaxis sordidus Lesson, Rev. Zool., 2, p. 105, 1839—Chile.¹

Synallaxis sordida Des Murs (2), p. 291—Chile; (?) Germain, p. 810—Chile (nesting habits); Pelzeln (2), p. 59—Chile; Sclater (2), 1867, pp. 324, 338—Chile; E. Reed (2), p. 547—Cauquenes, Colchagua.

Synallaxis flavogularis (not of Gould) Philippi (12), p. 252—Cordilleras of central provinces.

Synallaxis rufogularis (lapsu) Landbeck (9), p. 234—middle Cordilleras.

Siptornis sordida Sclater, Cat. B. Brit. Mus., 15, p. 68, 1890—part, Chile; E. Reed (4), p. 202—Chile.

Siptornis modesta (errore) Albert (1), 101, p. 241—central and southern Chile.

Siptornis sordida sordida Barros (5), p. 182—Cordillera of Aconcagua; idem (6), p. 34—San Bernardo; Housse (2), p. 145—San Bernardo, Santiago.

Range in Chile.—Central and southern provinces, from Aconcagua to Llanquihue (Rio Aisen).

Material collected.—Cautin: Rio Lolen (alt. 3,600 feet), Lonquimai Valley, ♂ ad., ♀ ad., ♂ juv., ♀ juv., Feb. 11; Lake Gual-

since careful scrutiny discloses traces of dusky marginal edges in more than one example. Apart from the presence of heavy streaks on the crown, *L. "striata" cajabambae* Chapm. is an exact duplicate of *L. pileata*, both agreeing in the decidedly gray under parts with more or less pronounced whitish pectoral stripes, the coarse black marginal spots on throat and foreneck, and in the small cinnamon alar speculum being wholly concealed on the secondaries and inner primaries by the overlying wing coverts and passing into white or buffy white at the base of the third to the sixth primaries. Color and markings of the dorsal surface and the pattern of the tail are also the same. The two forms replace each other geographically, and it seems pretty certain that *cajabambae* is merely a race of Sclater's species and should accordingly be classified as *L. pileata cajabambae*. The specimens of *L. p. pileata* were all collected by P. O. Simons in February, 1900, at San Mateo (alt. 3,200 meters), Dept. of Lima.

The fact that *L. s. superciliaris* occurs in the same range, though at a lower altitude, would seem to indicate that *L. striata* and *L. pileata* are specifically distinct, inasmuch as the vertical distribution of *L. s. striata*—in northern Chile at least—extends from 4,000 to 12,000 feet. However, the resemblance of *L. s. superciliaris* to *L. p. pileata* in tail pattern and its brighter rufous (though unstreaked) pileum mark such obvious steps in the direction of the *pileata* group that more ample material from western Peru may yet show the two "species" to be members of a single "formenkreis."

¹In another connection (Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 135, footnote a, 1925) I have already called attention to the unsatisfactory nature of the diagnosis. Since the above was written, I have discovered that a much fuller description of *S. sordidus* was subsequently given by Lesson in Oeuvr. de Buffon, éd. Lévêque, 20, (Descr. Mamm. et Ois.), 1847, p. 290. Here the tail is stated to be "roux vif, chaque penne largement flammée de brun d'un côté," which clearly excludes the members of the *A. pyrrholeuca* group, and seems to point to *A. modesta*, with the inner web of all the rectrices largely black. The description of the upper parts, "entièrement roux-brun sale, à partir du front jusqu'au croupion," however, does not fit the latter species, and unless the type can be found, *S. sordidus* will always remain in doubt. At all events, it cannot possibly apply to the species with wholly rufous lateral and dusky brown central rectrices, and the bird designated above as *A. p. sordida* requires a new name.

letué (alt. 3,800 feet), two ♂♂ juv., Feb. 18, 19.—Llanquihue: Casa de Richards, Rio Ñirehuau, two ♂♂ ad., Feb. 16, March 1.

Additional specimens.—Santiago: Valle del Yeso, ♀ ad., Jan., 1866. R. A. Philippi (U. S. National Museum); Santiago, ♀ ad. R. A. Philippi¹ (Museum of Comparative Zoology, Cambridge).—"Chile" (unspecified): two adults. E. C. Reed (Field Museum and U. S. National Museum).

This species is immediately recognizable from *A. modesta* by having the three lateral pairs of rectrices wholly rufous² and the two median ones blackish brown, dusky in worn plumage.

This spine-tail having frequently been confused by authors with related species, it is nearly impossible to outline its distribution. The few reliable records and the material at hand, however, seem to indicate that it is chiefly, if not exclusively, a bird of the mountains. In Aconcagua Province, R. Barros tells us, it lives from October to April, that is, in the breeding season, in the Cordilleras at 6,000 to 10,000 feet, but is not seen there during the rest of the year. It then probably descends to lower altitudes, for Barros and Father Housse report to have obtained specimens in April and May on the hills in the neighborhood of San Bernardo. Farther south in Cautin, Sanborn, in February, collected a small series of breeding adults and full-grown young at altitudes of 3,600 and 3,800 feet, and the birds obtained by W. H. Osgood at Rio Ñirehuau, on the eastern side of the Andes in Llanquihue, doubtless were also nesting.

Nothing is on record regarding its habits and nidification.

127. *Asthenes modesta modesta* (Eyton)

Synallaxis modestus Eyton, Contrib. Ornith., 1851, p. 159, pl. 81,* fig. 2—"I believe it was from Bolivia" (type in British Museum examined).

Synallaxis humicola (errore) Philippi, Ornith., 4, p. 158—"Copacolla" [= Copacoya, Antofagasta].

Synallaxis modesta Sclater (4), 1886, p. 398—Sacaya and Sitani, Tarapacá.

Siptornis modesta Sclater (6), 1891, p. 135—Sacaya, Tarapacá.

Asthenes modesta modesta Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 139, 1925—Putre and Choquelimpie, Tacna, and Rio Inacaliri, Antofagasta.

Range in Chile.—Puna Zone of Antofagasta, Tarapacá, and Tacna.

¹Named "*Syn. flavigularis*" by Philippi on the original label.

²The third feather (from without) occasionally has an obsolete dusky margin on the basal portion of the inner web.

Material collected.—Antofagasta: Rio Inacaliri (alt. 12,800 feet), ♂ imm., ♀ ad., April 27; Silala (alt. 14,000 feet), Bolivian boundary, ♂ ad., April 27.—Tacna: Putre (alt. 11,600 feet), ♂ ad., two ♀ ♀ ad., June 18, 19; Choquelimpie (alt. 15,000 feet), three ♂ ♂ ad., one ♀ ad., June 21–24.

Additional specimens.—Tarapacá: Cordillera of Tarapacá, ♂ ad., Jan. 21, 1886. C. Rahmer; Sacaya, ♂ ad., March 17, 1890. A. A. Lane (British Museum).

There has been considerable uncertainty regarding the proper application of Eyton's name. Fortunately, the two original specimens are preserved in the British Museum, where I have carefully compared them with our material of this and the next form taken for that purpose to London. One of the skins, labeled "Ex Mus. T. C. Eyton, No. 1752. *Synallaxis modestus* Eyt., Bolivia?" (Brit. Mus. Reg. No. 81.2.18.177), clearly pertains to the race separated by Berlepsch¹ as *Siptornis modesta sajamae* and agrees with a series from Tacna and Tarapacá. The upper parts of the type are even more decidedly sandy brown than in the other specimens, and the chin-spot is slightly deeper rufous than even in the Silala bird, which represents the darkest extreme in that respect. In the rufescence of the wings and the deep, nearly pinkish buff color of the under parts it exactly matches some of our Tacna birds. This specimen is apparently the one with "gulá maculá castaneo-aurantiacá" and a slight tinge of "castanous" [= cinnamon-buff] on the under tail coverts described and figured by Eyton, and may be regarded as the *type*. The second example, with a similar label, but the number 1759 (Brit. Mus. Reg. No. 81.2.18.139), has a lighter chin-spot, darker brown upper parts, and the throat heavily freckled with whitish and dusky, and is clearly referable to *A. m. rostrata* (Berl.).²

Both of Eyton's specimens appear to be skins of Bridges, who probably secured them during his trip from Cobija across Antofagasta to Potosi and Cochabamba, Bolivia.³ The example of *A. m. rostrata* was no doubt collected somewhere in Cochabamba, while No. 1752, which, as shown above, must be regarded as the type, probably originated from either Antofagasta or Potosi. We herewith suggest the Pass of Tapaquilcha, on the boundary of the two provinces, as an appropriate type locality for *S. modestus*.

¹Journ. Orn., 49, p. 94, 1901—Esperanza, Sajama, Dept. Oruro, Bolivia.

²*Siptornis modesta rostrata* Berlepsch, l. c., 49, p. 94, 1901—Vacas, Dept. Cochabamba, Bolivia.

³For the localities visited on that journey, Bridges's two papers (in the P. Z. S. Lond., 14, pp. 7–10, 1846; 15, pp. 28–30, 1847) should be consulted.

A. m. modesta, while exceedingly variable in tone of plumage, may be distinguished from the central Chilean form by generally larger size, more buffy coloration throughout, and much more rufescent outer aspect of the wings.

As in other races of this species, the chin-spot varies, irrespective of sex and locality, from nearly white to tawny. Certain specimens are conspicuous for their intense buffy under parts, but others from the same locality are much paler.

A. m. modesta is an exclusive inhabitant of the Puna Zone, at elevations of 11,000 feet and upwards. Its range comprises northern Chile, the adjacent parts of southern Peru, western Bolivia, and northwestern Argentina.

128. *Asthenes modesta australis* Hellmayr

Asthenes modesta australis Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 138, 1925—Baños del Toro, Prov. Coquimbo.

Synallaxis modesta (not of Eyton) Sclater (2), 1867, p. 324—Chile; E. Reed (2), p. 547—Yeso, near Cauquenes, Colchagua.

Synallaxis humicola (not of Kittlitz) Philippi (12), p. 252—Chile; Landbeck (9), p. 237—middle Cordilleras.

Siptornis humicola Albert (1), 101, p. 238—Chile.

Siptornis modesta E. Reed (4), p. 202—Chile.

Siptornis modesta modesta Barros (5), p. 182—Cerro de la Virgen (Los Andes) and Rio Blanco, Aconcagua.

Range in Chile.—Central provinces, from southern Atacama to Colchagua.

Material collected.—Atacama: Domeyko (63 km. south of Valenar), two ♂♂ ad., Aug. 10, 13.—Coquimbo: Baños del Toro (alt. 10,600 feet), three ♂♂ ad., Nov. 12–14.

Additional specimens.—Santiago: vicinity of Santiago, two ♂♂ ad., one ♀ ad.,¹ June and July, 1865. R. A. Philippi (U. S. National Museum).

Central Chilean birds differ from typical *modesta* by smaller size, paler buffy, often nearly whitish under parts, much duller, less brownish dorsal surface, which is brownish gray with a slight tinge of drab, and much less rufescent wings.

From *A. pyrrholeuca sordida* auct., which also occurs in the Andes of central Chile, this spine-tail is easily distinguished by the parti-colored lateral rectrices, whose basal portion is blackish-brown, strongly contrasted with the oblique cinnamon apical spot.

¹ All three specimens are named "*S. humicola*" by Philippi on the original labels.

It is the bird which Philippi, Landbeck, and Albert erroneously identified as *A. humicola*, a very distinct species with much shorter, stouter bill and broader, bluntly rounded (instead of acutely pointed), almost wholly blackish rectrices.

Like *A. pyrrholeuca sordida*, this spine-tail is an inhabitant of the mountains. In Aconcagua R. Barros met with it in July and August on the Cerro de la Virgen (Los Andes), and in August at Rio Blanco, towards the Valle de los Leones, at an elevation of 6,000 feet. We have examined specimens in fresh plumage taken in June and July in the vicinity of Santiago. Birds collected in November at Baños del Toro (alt. 10,600 feet), Coquimbo, are in very worn plumage, while those shot in August at Domeyko, Atacama, show but traces of wear. These facts suggest that these birds breed at high elevations, and migrate to the valleys and foothills in winter. Edwyn Reed states indeed that they live in summer in the high Cordillera of Colchagua. Yeso, the locality mentioned by him, appears to be the most southerly locality recorded for this species in Chile.

Whether birds from western and southern Argentina are exactly the same as the Chilean cannot be decided at present.

MEASUREMENTS

| | Wing | Tail | Bill |
|---------------------------------------|--------------------------------|---------------------------------------|--|
| <i>A. m. modesta</i> —Adult males | | | |
| Four from Tacna | 69,70,70,71 | 72,74,76,76 | 13 ¹ / ₂ ,15,15,15 ¹ / ₂ |
| One from Antofagasta | 70 | 67 | 14 ¹ / ₂ |
| Two from Oruro, Bolivia | 69,70 | 74,74 | 14,14 |
| <i>A. m. modesta</i> —Adult females | | | |
| Three from Tacna | 65,66,68 | 68,69,70 | 13 ¹ / ₂ ,14,14 |
| One from Antofagasta | 67 | 68 | — |
| One from Oruro, Bolivia | 67 | 70 | 13 ¹ / ₂ |
| <i>A. m. modesta</i> | | | |
| Type of <i>S. modestus</i> Eyton | 70 | 78 | 14 ¹ / ₂ |
| <i>A. m. australis</i> —Adult males | | | |
| Two from Domeyko, Atacama | 63,65 | 65,66 | 14,— |
| Three from Coquimbo | 65,67,68 | 65 ¹ / ₂ ,67,71 | 14,15,16 |
| Two from Santiago | 63,65 | 66,67 | — |
| <i>A. m. australis</i> —Adult females | | | |
| One from Santiago | 64 ¹ / ₂ | 66 | — |

129. *Asthenes d'orbignyi arequipae* (Sclater and Salvin)

Synallaxis arequipae Sclater and Salvin, P. Z. S. Lond., 1869, p. 417—Arequipa, Peru (type in British Museum examined).

Asthenes d'orbignyi arequipae Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 141, 1925—Putre, Tacna.

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), three ♂♂ ad., July 5-7.

These specimens differ from two Arequipa birds merely by lacking the black margin to the inner web of the outermost rectrix. This is probably an individual variation, since of two examples from Sajama, Oruro, Bolivia, one agrees with the Chilean, the other with the Arequipa skins.

This spine-tail, which is closely related to other forms occurring in the northern and eastern parts of Bolivia, is an inhabitant of the Temperate and Puna Zones of the Andes, its vertical range extending from 7,000 to 13,000 feet. Its distributional area is rather limited, comprising, as it does, the extreme southwest of Peru (Arequipa) and the adjacent parts of northern Chile (Tacna) and western Bolivia (Sajama, Oruro).

The present is the first record from Chile.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|--------------------------|----------|----------|----------|
| One from Arequipa (type) | 69 | 74 | 13 |
| Three from Putre, Tacna | 68,70,71 | 73,74,77 | 14,14,14 |
| Two from Sajama, Bolivia | 71,74 | 79,79 | 13,14 |
| Adult female | | | |
| One from Arequipa, Peru | 71 | 70 | 14 |

130. *Asthenes humicola humicola* (Kittlitz)

Synallaxis (sic) *humicola* Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 185, 1830—near Valparaiso (type in Leningrad Museum; cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 15, 1921); idem, Denkw., 1, p. 135—near Valparaiso.

Synallaxis cinerea Philippi, Anal. Univ. Chile, 91, p. 674, 1895—Andes of San Fernando, Colchagua; idem (24), p. 36, pl. 18, fig. 1—San Fernando.

Synallaxis humicola d'Orbigny, p. 245—part, Valparaiso; Darwin, p. 75—Valparaiso; Des Murs (2), p. 238—Chile (habits); Frauenfeld, p. 636—road Valparaiso—Santiago; Sclater (2), 1867, pp. 324, 338—Chile; Sclater, P. Z. S. Lond., 1874, p. 22—near Valparaiso; E. Reed (2), p. 548—Cauquenes, Colchagua; Allen, p. 92—Valparaiso; E. Reed (4), p. 202—central provinces.

Synallaxis pumicola Fraser (1), p. 112—Chile (habits); Bibra, p. 129—near Valparaiso.

Siptornis humicola Ménégauz and Hellmayr, Mém. Soc. Hist. Nat. Autun, 19, p. 79—Valparaiso; Hellmayr, Nov. Zool., 28, p. 263, 1921—Valparaiso; Barros (5), p. 182—Precordillera of Aconcagua; Gigoux, p. 87—Caldera, Atacama; Housse (2), p. 143—San Bernardo, Santiago; Wetmore (3), p. 272—Concon, Valparaiso.

Siptornis sordida (not of Lesson) Philippi (12), p. 253—Chile; Landbeck (9), p. 238—Chile (nesting habits); Albert (1), 101, p. 243—Chile (monog.); Barros (4), p. 145—Nilahue, Curicó; Jaffuel and Pirion, p. 106—Marga-Marga, Valparaiso.

Pteroptochus rubecula (errore) Waugh and Lataste (2), p. CLXX—San Alfonso (Quillota), Valparaiso; idem (3), p. LX—Peñafior, Prov. Santiago.

Range in Chile.—Northern and central provinces, from Atacama to Curicó.

Material collected.—Atacama: Caldera, ♀ ad., Aug. 29.—Coquimbo: La Compañía, ♂ ad., ♂ juv., Oct. 31; Romero, ♂ ad., ♀ ad., July 29, 31.—Valparaiso: Olmué, ♂ ad., May 25; Hacienda Limache, ♂ ad., Dec. 8, 1924. J. A. Wolffsohn.—Santiago: San José de Maipo (alt. 3,000 feet), ♂ ad., ♀ ad., Dec. 17, 19; Peñalolén, ♂ ad., Nov. 1, 1923. C. S. Reed.—O'Higgins: San Francisco, ♀ ad., May, 1923. C. S. Reed.—Colchagua: Baños de Cauquenes, ♀ ad., May 3, 1923.

Additional specimens.—Valparaiso: Valparaiso, adult. D'Orbigny (Paris Museum).

Birds from various localities in central Chile agree very well together, while those from Coquimbo and Atacama, as a rule, are slightly less streaked on the chest. *S. cinerea* seems to have been based on specimens in which the streaking underneath has nearly disappeared through abrasion. A worn breeding male from Coquimbo (F.M. No. 61,755) closely resembles Philippi's figure. Furthermore, an adult female (in fresh plumage) from Baños de Cauquenes, hence practically a topotype of *S. cinerea*, does not differ in any way from Valparaiso skins. Albert, who, following Philippi and Landbeck, misapplied to the present species the name of *S. sordida*, claims that birds from the plains (var. *crassirostris* Philippi) are more brownish than those from the mountains (var. *cinerea*), but our series shows this variation to be seasonal and independent of locality.

The juvenile plumage resembles the adults, but the rump is more rufous, the dusky markings below are less distinct, and the outermost as well as the outer web of the penultimate rectrix are strongly rufescent.

By some unexplainable oversight, the present species was listed by Waugh and Lataste under the name of *Pteroptochus rubecula*, as is shown by two specimens from San Alfonso (one in the Paris Museum, the other in the collection of the Linnean Society of Bordeaux), which were kindly re-examined on my request by M. J. Berlioz.

The "Canastero" is widely diffused in the northern and central provinces of Chile from Caldera south to Curicó, being resident throughout its range. It is chiefly found in the plains and foothills (pre-Cordillera), and more sparingly in the Andes, where according to Barros it does not ascend beyond an altitude of 6,000 feet.¹ The birds are stated to frequent dense thickets of low brush, where they work slowly about among the limbs or occasionally on the ground. Their clear, trilled song is compared by Wetmore to that of some wren. They build a voluminous nest of cylindrical shape in small trees several feet above the ground, and in September the female lays three dull white eggs.

131. *Asthenes humicola polysticta* Hellmayr

Asthenes humicola polysticta Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, p. 144, 1925—Hacienda Gualpencillo, Concepción.

Synallaxis humicola (not of Kittlitz) Lesson, Écho du Mond. Sav., 11, 2nd sem., No. 15, col. 347, Aug. 22, 1844—Chile (crit.).

Siptornis humicola Passler (3), p. 462—Coronel (habits).

Range in Chile.—Southern Chile, in provinces of Concepción and Maule.

Material collected.—Concepción: Hacienda Gualpencillo, four ♂♂ ad., five ♀♀ ad., April 11–20.—Maule: Pilen Alto, eight miles west of Cauquenes, ♂ ad., ♀ ad., May 10, 13.

This race differs from *A. h. humicola* by much more heavily marked under parts, the foreneck and breast down to the middle of the abdomen showing very distinct, blackish marginal spots or edges to the feathers, while the flanks and under tail coverts are much duller, varying from cinnamon-brown to snuff-brown instead of being bright tawny. The markings produce a regular black-and-whitish longitudinal streaking which, becoming slightly narrower, extends down to the anal region. In *A. h. humicola*, the lateral edges of the feathers on the foreneck and breast are much paler, a dull grayish brown, much less contrasted with the buffy white central streaks, and but rarely intermixed with a few isolated dusky or blackish marginal dots; the middle of the belly is plain (unspotted) buffy.

Our series of eleven is very constant in its characters, though the two birds from Maule, by brighter rufescent flanks, form the transition to *A. h. humicola*.

¹Philippi's record of *Synallaxis humicola* (Ornis, 4, p. 158) from "Copacolla" [=Copacoya, north of San Pedro de Atacama] in the Puna Zone of Antofagasta refers to *A. m. modesta*.

A. h. polysticta replaces the typical form south of the Rio Maule. Pässler found it breeding at Coronel, Concepción. In habits it apparently resembles its northern relative. Around Coronel it has two broods, the first at the end of September or early in October, the second in December. The clutch consists of three, rarely two eggs.

MEASUREMENTS

| | Wing | Tail |
|--|----------------|----------------|
| <i>A. h. humicola</i> —Adult males | | |
| Two from Coquimbo | 61,61 | 77,70 |
| One from Valparaiso | 64 | 75 |
| One from Santiago | 64 | 77 |
| <i>A. h. humicola</i> —Adult females | | |
| One from Caldera, Atacama | 58 | 67 |
| One from Coquimbo | 62 | 70 |
| One from O'Higgins | 65 | 80 |
| One from Colchagua | 63 | 73 |
| <i>A. h. polysticta</i> —Adult males | | |
| One from Maule | 64 | 80 |
| Four from Concepción | 63,64,66,66 | 72,75,78,80 |
| <i>A. h. polysticta</i> —Adult females | | |
| One from Maule | 65 | 77 |
| Five from Concepción | 62,63,64,64,64 | 72,73,75,76,78 |

132. *Asthenes anthoides* (King)

Synallaxis anthoides King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, p. 30, March, 1831—no locality specified, presumably Straits of Magellan; Sclater (2), 1867, pp. 324, 338—Chile; idem, P. Z. S. Lond., 1874, p. 25—near Valparaiso; E. Reed (2), p. 548—Cauquenes, Colchagua; Housse (2), p. 144—San Bernardo, Santiago.

Synallaxis rufogularis Gould in Darwin, Zool. Beagle, 3, p. 77, pl. 23, 1839—near Valparaiso; Fraser (1), p. 112—Chile; Des Murs (2), p. 290—near Valparaiso; Philippi (12), p. 252—Chile; Landbeck (9), p. 238—Chile (habits).

Siptornis anthoides E. Reed (4), p. 202—Chile; Albert (1), 101, p. 245—Chile (monog.); Barros (6), p. 34—San Bernardo, Santiago; Pässler (3), p. 463—Coronel, Concepción (nesting habits); Bullock (4), p. 175—Angol, Malleco.

Range in Chile.—Central and southern Chile, from Valparaiso to the Straits of Magellan. (Also along the foot of the Argentine Andes as far north as Lake Nahuel Huapi.)

Material collected.—Cautin: Rio Lolen (alt. 3,600 feet), Lonquimai Valley, ♂ ad., ♀ ad., three ♂♂ juv., one ♀ juv., Feb. 11–13; Lake Gualletué (alt. 3,800 feet), ♂ ad., ♀ juv., Feb. 18.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♀ ad., March 1.

Additional specimens.—Santiago: San Bernardo, ♀ ad., Aug. 20, 1923. Carlos S. Reed (Museum of Comparative Zoology, Cam-

bridge, Mass.); vicinity of Santiago, ♂ ad., ♀ ad., July, 1865. R. A. Philippi (U. S. National Museum).

King's Spine-tail is immediately distinguished from the other Chilean species of the genus by the heavily black-spotted upper parts. The juvenile plumage lacks the orange (or yellow) gular spot, and the chest and sides are transversely barred with sooty.

I fail to find any constant difference between birds from the south and those from Santiago, though there is much individual variation.

The breeding range of this species cannot be properly defined at present, but seems to be restricted to the southern provinces. Sanborn secured full-grown young birds in February in the low Cordilleras (3,600 to 3,800 feet) of Cautin Province, and Pässler records its breeding in the vicinity of Coronel, Concepción. In the Angol Valley, Malleco, Bullock observed it merely from April to September, and doubts that it nests in the region. Edwyn Reed lists it as common for Cauquenes, Colchagua, without stating the time of its occurrence. In Santiago Province it appears to be only a winter visitor. At San Bernardo Barros shot specimens in May and September, Carlos S. Reed in August. Housse states that it stays there all winter. The United States National Museum has two adults collected by Philippi in July near the city of Santiago.

According to Landbeck, this spine-tail frequents open pastures, wet meadows, and hill slopes, but does not penetrate the mountains to any considerable altitude. Pässler describes the nest as being similar to that of *A. humicola polysticta*, but smaller, more roundish, and lacking the entrance-tunnel. The aperture, placed in the upper portion of the structure, is often protected by small, thorny sticks, and the inside of the nest is profusely fitted with plant-wool, dried lichens, and flowers. The eggs are dull white, sometimes tinged with yellowish.

[Two other species of the subfamily Synallaxinae have been erroneously credited to Chile.

(1) *Synallaxis stissitura* Lesson, Écho du Monde Sav., 11, 2nd sem., No. 13, col. 303, Aug. 15, 1844—"Chile";—*S. stipitura* Lesson, Oeuvr. Buffon, éd. Lévêque, 20, (Descr. Mamm. et Ois.), p. 288, 1847—"Chile"; Des Murs (2), p. 294—Chile (ex Lesson).

An unidentifiable member of the rufous-crowned section of *Synallaxis*, perhaps an earlier name for *S. azarae elegantior* Scl. The habitat "Chile" is doubtless erroneous.

(2) *Synallaxis striaticeps* Des Murs in Gay, p. 291—"Chile"; E. Reed (4), p. 202; *Siptornis striaticeps* Albert (1), 101, p. 243—Chile.

Claudio Gay claims to have met with the Striped-crowned Spine-tail, whose actual name is *Cranioleuca pyrrhophia striaticeps*, somewhere in Chile, without giving any details. As no representative of the genus *Cranioleuca* has ever been found within the boundaries of the republic, Gay's record must be rejected as untrustworthy. Philippi (Anal. Univ. Chile, 13, p. 253, 1868) also denies its occurrence in Chile.]

133. *Pygarrhicus albo-gularis* (King)

Dendrocolaptes albo-gularis King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, p. 30, March, 1831—locality not specified, presumably Straits of Magellan; Des Murs (2), p. 297—southern provinces of Chile; Philippi (12), p. 254—from Colchagua southward; Landbeck (9), p. 238—from the central provinces south (habits).

Dendrodrampus leucosternus Gould in Darwin, Zool. Beagle, 3, p. 82, pl. 27, 1839—Chiloé Island and near Rancagua, O'Higgins.

Dendrodrampus leucosternon Fraser (1), p. 112—Colchagua Province.

Pygarrhicus albogularis Hartlaub (3), p. 210—Valdivia.

Pygarrhichus albogularis Selater (2), 1867, pp. 324, 338—southern Chile; Bullock (3), p. 124—Nahuelbuta, Malleco.

Pygarrhicus albigularis E. Reed (2), p. 548—Piedra Rajada, Colchagua; idem (4), p. 202—central and southern Chile; Lane, p. 39—Maquegua, Arauco (habits); Albert (1), 101, p. 250—Chile, north to Colchagua (monog.); Barros (6), p. 32—Hacienda de Huelquen, near Paine, Prov. O'Higgins.

Pigarrhicus albigularis Bullock (5), p. 175—Angol, Malleco.

Range in Chile.—Central and southern provinces, from O'Higgins to the Straits of Magellan. (Also along the foot of the Andes on the Argentine side as far north as Mendoza.)

Material collected.—Maule: Pilen Alto (eight miles west of Cauquenes), ♂ ad., May 10.—Malleco: Curacautin, ♂ ad., ♀ ad., ♀ juv., Jan. 8–15.—Cautin: Lake Gualletué (alt. 3,800 feet), two ♂♂ juv., Feb. 21.—Valdivia: Riñihue, ♂ juv., March 14; Máfil, two ♀♀ ad., one ♂ juv., Feb. 18–24.—Chiloé Island: Rio Inio, ♂ ad., ♀ juv., Jan. 15, 19; Quellon, ♂ ad., two ♀♀ ad., Dec. 23–28.—Llanquihue: Rio Aisen, ♀ ad., April 2; Rio Ñirehuau, ♂ juv., ♀ juv., March 6.

The juvenile plumage is heavily spotted with tawny above, these spots often verging into ochraceous-buff or warm buff on the back; the posterior under parts are also washed with buff, the blackish margins to the feathers of the sides being broken and less pronounced.

The "Comecebo Grande" is a characteristic species of the beech and oak woods, with the distribution of which its range very nearly coincides in Chile and adjacent countries. In the southern provinces it is widely diffused throughout the lowlands and hills from the sea-coast up to an elevation of about 4,000 feet. The Museum Expedition found it common on Chiloé Island and in Valdivia Province as well as at Curacautin (alt. about 1,700 feet), Malleco, and at Lake Gualletué (alt. 3,800 feet), Cautin. Lane met with it in fair numbers at Maquegua, Arauco, not far from the coast. In Malleco, according to Bullock, it chiefly occurs on the hills, where there are still native trees, and he notes it as particularly abundant on the Cerro de Nahuelbuta. There are no definite records from Concepción, though Sanborn secured a single male at Pilen Alto in the neighboring province of Maule, nor has the species been listed from either Linares, Talca, or Curicó. However, it is known to inhabit the mountainous parts of Colchagua, where it was found by Bridges, Landbeck, and Edwyn Reed. The last-named naturalist specifically mentions Piedra Rajada as locality, without stating its altitude. The "Comecebo Grande" even ranges into O'Higgins, which at present marks the northern limit of its distributional area. Darwin met with it in some woods near Rancagua (alt. about 1,600 feet), and quite recently R. Barros obtained specimens at Huelquen (alt. 4,500 feet), near Paine, in the month of October.

The habits of these birds, as regards feeding and movement, are described as being the same as those of woodpeckers and tree-creepers. They usually creep about the tops of high forest trees, but now and then come lower down, and at times even to the ground. They peck with considerable force, like a woodpecker. The note is a loud, somewhat sharp chirruping, and is frequently uttered. According to Albert, they nest in hollow trees, and the clutch consists of three or four white eggs.

[Two other species of the Philydorinae have been erroneously credited to the Chilean fauna.

Claudio Gay (Hist. fis. pol. Chile, Zool., 1, p. 296) believed that *Anabates cristatus* Spix might occur in Chile. This surmise is altogether unfounded, *Pseudoseisura c. cristata* and *P. c. unirufa*, its close ally, being restricted to the plains of Brazil and eastern Bolivia.

Anabates turdoides Lesson (Écho du Monde Sav., 11, 2nd sem., No. 14, col. 325, Aug. 18, 1844; idem, Oeuvr. Buffon, ed. Lévêque, 20, p. 279; Gay, Hist. fis. pol. Chile, Zool., 1, p. 296) was described

as a new species from "Chile." This bird, which I have not yet succeeded in identifying, seems to be allied to *Automolus* or *Thriposphaga*. Neither genus has any representative in Chile.]

134. *Pteroptochos tarnii* (King)¹

Hylactes tarnii King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, p. 15, Jan., 1831—Chiloé Island and Port Otway, Gulf of Peñas; Sclater (2), 1867, pp. 325, 338—southern Chile; Sclater and Salvin, Ibis, 1869, p. 283—Halt Bay, Mesier Channel; Ridgway (2), p. 135—Port Otway, Gulf of Peñas; E. Reed (4), p. 203—Valdivia; Lane, p. 42—Arauco, Corral and Rio Bueno (Valdivia), Puerto Montt, Llanquihue; Albert (1), 190, p. 606—southern Chile; Passler (3), p. 455—Coronel (habits); Housse (1), p. 49—Isla La Mocha, Arauco; Bullock (3), p. 124—Cerro de Nahuelbuta, Malleco; idem (4), p. 175—Angol, Malleco.

Megalonyx ruficeps Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 15, 1837—Valdivia.

Leptonyx tarnii d'Orbigny, p. 138, pl. 8, fig. 1—Valdivia.

Pteroptochos tarnii Darwin, p. 70—from the neighborhood of Concepción to south of the peninsula of Tres Montes; Des Murs (2), p. 304—Concepción to Magellania; Boeck, p. 499—Valdivia; Philippi (12), p. 254—Concepción to Straits of Magellan; Cunningham (2), p. 347—common in Chiloé and in the Chonos Archipelago and even as far south as Halt Bay, Mesier Channel; Landbeck (9), p. 240—Chiloé to Concepción (habits); C. Reed (1), p. 38—Concepción.

Megalonyx tarnii Lesson (11), p. 209—Chiloé; idem (12), col. 253—Chiloé.

Range in Chile.—From Concepción to Mesier Channel in the Straits of Magellan.

Material collected.—Malleco: Curacautin, ♀ juv., Jan. 13.—Valdivia: Ríñihue, ♂ imm., March 11; Máfil, ♂ juv., ♀ ad., Feb. 16, 28.—Chiloé Island: Quellon, three ♂♂ ad., ♀ ad., ♂ juv., Dec. 20—Jan. 27; Rio Inio, ♀ ad., one adult (unsexed), two ♂♂ juv., Jan. 8–15.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♂ imm., March 1.

¹Lesson (Rev. Zool., 5, p. 209, "July," 1842; Act. Soc. Linn. Bordeaux, 12, No. 41, p. 197, Sept., 1842) describes a new species, *Megalonyx rufocapillus*, from Chiloé, collected by his brother Adolphe Lesson, surgeon of the "Pylade." The diagnosis—"Sincipite rufo; corpore supra brunneo, rufo-tincto; genis griseis; collo antici griseo sordido rufuloque tincto; thorace albo et nigro-lineato; abdomine griseo; alis rufis; rectricibus rufis, lateralibus atro et albo ocellatis"—does not fit any Chilean bird. Des Murs (in Gay, 1, p. 306) merely gives a Spanish version of Lesson's description, without adding anything. Philippi (Anal. Univ. Chile, 31, p. 255, 1868), the only author who has quoted the name since, considers it a synonym of *P. tarnii*. That species, however, has neither black and white bars on the throat nor a rufous tail with black and white spots on the lateral rectrices. I am quite unable to make it out, and strongly doubt the locality "Chiloé." M. Berlioz's efforts, on my behalf, to locate the type in the Rochefort Museum, where, according to Lesson's own statement (Rev. Zool., 5, p. 130, 1842), the greater part of his brother's collection was deposited, unfortunately were unsuccessful.

Birds in juvenile plumage are much duller underneath, auburn rather than bright chestnut, and lack the concentric black abdominal markings, which are replaced by faint dusky vermiculations; besides, the rufous cap is much duller, a good many of the crown-feathers being apically edged with sooty, and the lower mandible is pale brownish.

The "Hued-hued" is a common bird in southern Chile, from the vicinity of Concepción south to Mesier Channel (Halt Bay), and ranges across the Andes to the extreme western section of Rio Negro and Chubut. It is reported to be plentiful in pieces of old forest where "quila" and other undergrowths abound, but occurs also in the more cultivated parts wherever there is sufficient cover, such as ravines, banks of rivers, and similar places. Landbeck, Lane, and Pässler have described at length its manners and various call-notes. The last-named observer found its nest at the bottom of a deep burrow in the steep bank of a river. It was made of dry grass and contained, about the middle of November, two broadly oval, slightly glossy, white eggs.

135. *Pteroptochos castaneus* Philippi and Landbeck

Pteroptochus castaneus Philippi and Landbeck, Anal. Univ. Chile, **25**, No. 3, p. 408, Sept., 1864—Hacienda de la Puerta, Colchagua; Philippi (12), p. 254—Colchagua; idem (24), p. 38, pl. 16—Hacienda de la Puerta, Colchagua.

Pteroptochos tarnii (not of King) Bridges, p. 94—Andes of Chile, 34°–35° S. lat. = Colchagua.

Pteroptochos castaneus Philippi and Landbeck, Arch. Naturg., **31**, (1), p. 56, 1865—Hacienda de la Puerta, Prov. Colchagua; idem, l. c., **32**, (1), p. 121, 1866—Hacienda de la Puerta and "Talcareguc" [=Talcaregua], Colchagua (descr. juv., crit.); Sclater (2), 1867, pp. 325, 338—Colchagua.

Hylactes castaneus Sclater and Salvin, Exotic Ornith., p. 58, pl. 29—Colchagua; Landbeck (9), p. 240—Colchagua (habits); E. Reed (2), p. 549—Cauquenes, Colchagua; idem (4), p. 203—"provincias del centro i del sur"; Allen, p. 99—"Valparaiso" (?); Albert (1), **100**, p. 607—"centro i sur del Chile."

Range in Chile.—Only known from Colchagua.¹

Material examined.—Colchagua: Talcaregua, ♀ ad., Nov., 1865. R. A. Philippi (Mus. Comp. Zool., Cambridge); Colchagua, ♂ ad., ♀ ad., adult (unsexed). Landbeck and E. C. Reed (British Museum).—"Chile" (locality not specified): fifteen specimens, collected by

¹C. S. Reed (Av. Prov. Concepción, p. 38) is certainly mistaken in including this species among the birds found in Concepción Province.

F. Leybold, T. Bridges, Hénault, and others (British Museum and Paris Museum).

The "Turco castaña" is as yet only known from Colchagua Province. It was first met with by Philippi and Landbeck in December, 1860, in the Hacienda de la Puerta, at an elevation of about 5,000 feet above sea level. Here it was observed in small companies, frequenting the deep ravines traversed by the streams which descend from the neighboring snow fields. Subsequently, additional specimens were obtained, in November, 1865, from Talcaregua, in a more northern part of Colchagua. Two young birds taken in the first third of November being full-grown, the species would appear to breed early in the Antarctic summer. Edwyn Reed lists it as rare in the vicinity of Cauquenes.¹ Its favorite resorts are the bottoms of the deepest and dampest ravines, which are densely clothed with a coarse grass called "quila" and thickets formed by a kind of beech, thus localities similar to those affected by *P. tarnii*, which it is also said to resemble in actions and call-note.

P. castaneus, while probably a northern representative of *P. tarnii*, differs strikingly from its ally by rufous (instead of slaty) throat and foreneck, lesser amount of rufous on the crown, this color being restricted to the forehead and a superciliary stripe; paler, more olivaceous dorsal surface, with distinct buff or ochraceous apical spots to the greater upper wing coverts and inner secondaries, etc. Until we acquire a better knowledge of its distribution, it seems advisable to keep the two birds specifically different.

136. *Pteroptochos megapodius* Kittlitz

Pteroptochos (us) megapodius Kittlitz, Mém. Acad. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 182, pl. 4, 1830—Valparaiso (type in Leningrad Museum; cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 15, 1921); Darwin, p. 71—northern and central Chile; Lesson (10), p. 135—Valparaiso; Fraser (1), p. 111—near Valparaiso; Des Murs (2), p. 302—Chile (monog.); Bibra, p. 129—Valparaiso (habits); Cassin, p. 184—Chile; Kittlitz, Denkw., 1, p. 137—near Valparaiso; Pelzeln (2), p. 60—Chile; Philippi (12), p. 254—central and northern provinces; Landbeck (9), p. 239—Chile (habits); Waugh and Lataste (2), p. CLXX—San Alfonso (Quillota), Valparaiso; idem (3), p. LIX—Peñaflor, Santiago.

Pteroptochus paradoxus (errore) Frauenfeld, p. 636—near Valparaiso (spec. in Vienna Museum examined).

Hylactes megapodius Pelzeln (2), p. 60—Chile; Sclater (2), 1867, pp. 325, 338—Chile; E. Reed (2), p. 549—Cauquenes, Colchagua; idem (4), p.

¹His remark that it is more common in the south is doubtless due to confusion with the southern species, *P. tarnii*.

203—central provinces; Lane, p. 44—Hacienda Mansel, Santiago; Sclater, Bull. Brit. Orn. Cl., 7, p. XXIII, 1897—Chile (egg descr.); Schalow (2), p. 704—La Serena, Coquimbo; Albert (1), 100, p. 609—Chile (monog.); C. Reed (1), p. 38—Concepción; Barros (4), p. 143—Nilahue, Curicó; idem (5), p. 179—Cordillera of Aconcagua; C. Reed (4), p. 145—Cerro de Lampa, Santiago (food); Pässler (3), p. 456—Coronel, Concepción (habits); Housse (2), p. 143—San Bernardo, Santiago; Jaffuel and Pirion, p. 110—Marga-Marga, Valparaíso.

Megalonyx rufus Lesson, Cent. Zool., p. 200, pl. 66, May, 1832—"le sud du Chile, dans le pays des Araucans et des Puelches"; Lafresnaye and d'Orbigny, Syn. Av., 1, p. 15—Chile; Lesson, Act. Soc. Linn. Bordeaux, 12, p. 196—Valparaíso.

Leptonyx macropus Swainson, Zool. Illust., 2nd ser., 3, p. 117, pl. 117, 1833—Chile; d'Orbigny, p. 197—Valparaíso.

Range in Chile.—Central provinces, ranging from Coquimbo to Concepción.

Material collected.—Coquimbo: La Compañía, ♀ juv., Oct. 31.—Valparaíso: Limache, ♂ ad., ♀ ad., June, 1922. C. S. Reed.—Santiago: Lampa, ♀ ad., June 2, 1923. C. S. Reed; Batuco, ♀ ad., July 22, 1923. C. S. Reed; San José de Maipo (alt. 3,000 feet), ♂ juv., two ♀ ♀ juv., Dec. 17–19.—Colchagua: Tinguiririca, ♂ ad., July 5, 1924; Pelequen, ♂ ad., July 10, 1923. C. S. Reed.

The two specimens from Colchagua have the foreneck and chest of a deeper as well as more uniform rufous than the others, but are closely approached by a female from Batuco. Young birds are much more buffy underneath with the blackish cross-bands less pronounced; superciliaries, chin, and sides of throat are buff instead of white; the lower mandible is yellowish.

The range of the "Turco" is restricted to the central provinces. A few specimens have been taken as far north as Coquimbo, but it appears to be most abundant in Aconcagua, Valparaíso, Santiago, and Colchagua. Barros found it in small numbers in the valley of Nilahue, Curicó, and Pässler in the hills inland of Coronel, Concepción, the latter locality marking the southern limit of its recorded distributional area.

The "Turco" lives amongst the hills and mountains up to 8,000 feet, descending to lower regions only where snow falls. Like *P. tarnii*, it digs a deep burrow in the hillside or in the river bank, and lays two broadly oval, white eggs. Pässler found the eggs near Coronel early in October. A figure of the nesting-hole is given by Lane (Ibis, 1897, p. 44).

137. *Scelorchilus rubecula* (Kittlitz)

Pteroplochos rubecula Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 179, pl. 2, 1830—Concepción, Chile (type in Leningrad Museum; cf. Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 14, 1921); Darwin, p. 73—from Concepción to 47° S. lat.; Des Murs (2), p. 304—Concepción, Valdivia, Chiloé; Kittlitz, Denkwurd. Reise, 1, p. 123—San-Tomé, near Concepción; Sclater (2), 1867, pp. 325, 338—Chile; Philippi (12), p. 225—Chiloé to Colchagua; Landbeck (9), p. 240—Chiloé to Colchagua (habits); Hellmayr, Nov. Zool., 28, p. 213, 1921—Valdivia.

Megalonyx rubecula Lafresnaye and d'Orbigny, Syn. Av., 1, p. 16—Chile.

Leptonyx rubecula d'Orbigny, p. 196—Valdivia.

Megalonyx rufogularis d'Orbigny, pl. 7, fig. 3; Lesson (10), p. 135—Valdivia and Chiloé.

Pteroplochos rubecula Tschudi, p. 18—Chiloé; Boeck, p. 500—Valdivia; Pelzel (2), pp. 60, 163—Chiloé; Ridgway (2), p. 135—Port Otway, Gulf of Peñas; E. Reed (4), p. 203—Valdivia and south, rare north of the Rio Maule; Lane, p. 40—Puerto Varas (Llanquihue), Rio Bueno and Calle-Calle (Valdivia), Chiloé (habits); Albert (1), 100, p. 602—from Colchagua southward; Blaauw (1), pp. 28, 32, 64—Lake Todos Santos and near Puerto Montt, Llanquihue, and Hoppner Sound, Gulf of Peñas; Passler (3), p. 454—Coronel (habits); Housse (1), p. 49—Isla La Mocha, Arauco; Bullock (3), p. 123—Cerro de Nahuelbuta, Malleco; idem (4), p. 175—Angol, Malleco.

Pteroplochos rubecula E. Reed (2), p. 549—Talhuén, Cauquenes, Colchagua.

Pteroplochos rubecula nemorivaga Wetmore, Univ. Calif. Pub. Zool., 21, p. 333, June 16, 1923—Port Otway, "Straits of Magellan"—Gulf of Peñas.

Range in Chile.—From the Gulf of Peñas to southern Colchagua.¹

Material collected.—Malleco: Curacautin, three ♂♂ ad., two ♀♀ ad., one ♂ juv., Jan. 9–13.—Valdivia: Máfil, ♂ ad., two ♀♀ ad., Feb. 17; Ríñihue, ♀ ad., March 6.—Chiloé Island: Quellon, four ♂♂, four ♀♀, one ♂ juv., Dec. 20–Jan. 1; Rio Inio, eight ♂♂, one ♀ ad., two ♂♂ juv., Jan. 11–16.—Llanquihue: Rio Aisen, ♀ ad., April 2; Rio Ñirehuau, one unsexed, Feb. 21.

As we have pointed out elsewhere,² birds from the extreme south (Llanquihue) are nowise different from a series collected at Curacautin, Malleco. *P. r. nemorivaga*, from Port Otway, appears to have been based on specimens whose coloration has been altered through preservation in alcohol. Young birds differ from the adults merely by having the middle of the belly suffused with orange-rufous, and the throat and foreneck are frequently, though not always, paler rufous.

¹ Waugh and Lataste's (Act. Soc. Scient. Chili, 4, p. CLXX; l. c., 5, p. LX) records of this species from San Alfonso (Quillota), Valparaíso, and Peñafior, Santiago, prove to be referable to *Asthenes h. humicola*!

² Field Mus. Nat. Hist., Zool. Ser., 13, Part 3, p. 6, 1924.

The "Chuca" is chiefly found in the forested section of southern Chile, from Concepción to the Gulf of Peñas, and is particularly plentiful in Valdivia, Llanquihue, and on Chiloé Island. Blaauw and the naturalists of the "Albatross" met with it in the Tres Montes Peninsula, so far the most southerly recorded locality. According to Sanborn's and Bullock's observations, the "Chuca" is fairly numerous in Malleco, while Pässler found it not uncommon near Coronel, in the Bay of Concepción. While Darwin states that this bird does not occur north of Concepción, both Philippi and Landbeck give its range as extending north to Colchagua, and Edwyn Reed tells us that, although rare north of the Rio Maule, it is sometimes met with in the Talhuen district, in the southern part of the hacienda de Cauquenes.

The "Chuca" inhabits thick undergrowth in the forest, being generally found in the vicinity of streams. "The birds are rather wary, come out now and then into view, when unconscious of observation, but on perceiving anybody near, they are so hasty in their retreat that they seem to vanish into nothing. Their movements can only be compared to the flight of an arrow or such-like missile—that is, when they make a dart across an open space or retreat from observation. Otherwise they hop or run along in an easy-going way, and will come quite close under cover of bushes. Their note is very loud and is uttered in almost the same tone as the gobbling of a turkey. The male emits a note something like the crow of a cock; this it utters at intervals while threading its way through the labyrinths of the forest undergrowth" (A. A. Lane). The nest, we are told by Pässler, is placed in holes on steep river banks, and contains in October or November two broadly oval, smooth, slightly glossy white eggs.

138. *Scelorchilus albicollis albicollis* (Kittlitz)

Pteroptochos (us) albicollis Kittlitz, Mém. Acad. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 180, pl. 3, 1830—Valparaiso; Darwin, p. 72—part, central Chile; Fraser (1), p. 111—central provinces; Des Murs (2), p. 303—Chile (monog.); Bibra, p. 129—Chile (habits); Cassin, p. 184—Chile; Kittlitz, Denkw., 1, p. 136—near Valparaiso; Germain, p. 311—Santiago (breeding habits); Sclater (2), 1867, pp. 325, 338—central Chile; Philippi (12), p. 254—part, central provinces; E. Reed (2), p. 549—Cauquenes, Colchagua; Landbeck (9), p. 239—Chile (habits); Waugh and Lataste (2), p. CLXX—San Alfonso (Quillota), Valparaiso; idem (3), p. LIX—Peñaflor, Santiago; E. Reed (4), p. 203—central provinces; Barros (4), p. 142—Nilahue, Curicó; idem (5), p. 179—Cordillera of Aconcagua; Jaffuel and Pirion, p. 110—Marga-Marga, Valparaiso; Chrostowski, Ann. Zool. Mus.

Pol. Hist. Nat., 1, p. 14, 1921—(type in Leningrad Museum, erroneously stated to be from El Tomé, Concepción).

Myiothera albicollis Meyen, p. 77—Casa Blanca, Valparaíso.

Megalonyx medius Lesson, L'Institut, 2, No 72, p. 316, Sept. 27, 1834—Valparaíso; idem, Illust. Zool., pl. 60, 1835—Valparaíso.

Megalonyx albicollis Lafresnaye and d'Orbigny, Syn. Av., 1, p. 15—Chile.

Leptonyx albicollis d'Orbigny, p. 196, pl. 8, fig. 2—"Concepción, Valdivia" (errore; cf. Hellmayr, Nov. Zool., 28, p. 213, 1921).

Scelorchilus albicollis albicollis Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 13, Part 3, p. 7, pl. 3, 1924—Olmué, San José de Maipo, and Lampa.

Range in Chile.—Central provinces, from Aconcagua to Curicó.

Material collected.—Valparaíso: Olmué, two ♂♂ ad., three ♀♀ ad., May 24, 27, June 3; Las Rojas, Quillota, ♂ ad., Aug. 22. J. A. Wolffsohn; Limache, ♀ ad., Oct. 19. J. A. Wolffsohn.—Santiago: San José de Maipo (alt. 3,000 feet), ♀ ad., Dec. 21; Lampa, ♂ ad., ♀ ad., June 2. C. S. Reed.

The series is very uniform except that birds in worn plumage (October to December) are less buffy below and not so deeply colored above.

The "Tapaculo" is common in the heart of central Chile, from Aconcagua to Colchagua, ranging southwards into Curicó, where R. Barros found it in small numbers in the valley of Nilahue. The localities "Concepción and Valdivia"—mentioned by d'Orbigny on the authority of a M. Fontaine—are erroneous. The exact northern limit of its distribution cannot be given at present, though it possibly extends into the southern parts of Coquimbo Province.¹

This bird is reported to be resident in bushy ravines and river banks, ascending in the hills to an approximate altitude of 5,000 feet. In October or November, Germain tells us, it lays two eggs in a badly constructed nest, which it places in the holes of cliffs or oftener in the empty galleries of *Octodon cumingi*.

139. *Scelorchilus albicollis atacamae* Hellmayr

Scelorchilus albicollis atacamae Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 12, p. 71, 1924—Caldera, Atacama; idem, l. c., 13, Part 3, p. 7, pl. 3, 1924—Caldera, Quebrada del Leon, and La Compañía.

Pteroptochos (us) albirollis (not of Kittlitz) Darwin, p. 72—part, Copiapó Valley; Philippi, Reise Wüste Atacama, p. 162—Quebrada de La Encantada, Atacama; idem (12), p. 254—part, northern provinces; Sharpe, p. 8—Coquimbo; Salvin (2), p. 425—Coquimbo; Philippi, Ornith., 4, p. 159—Quebrada de La Encantada; Schalow (2), p. 705—Totoralillo, Coquimbo Bay; Gigoux, p. 86—Caldera.

¹The bird seen by Darwin near Illapel probably belonged to typical *albicollis*.

Range in Chile.—Northern provinces, from Coquimbo to Atacama.

Material collected.—Atacama: Caldera, ♀ ad., Aug. 29 (type of subspecies); Quebrada del Leon, near Caldera, two ♂♂ ad., March 26. C. C. Sanborn; ♂ ad., two ♀ ad., Sept. 19, May 18. E. Gigoux.—Coquimbo: La Compañia, ♀ ad., Oct. 31.

Additional specimens.—Coquimbo: Las Cardas, ♂ ad., July, 1879. Coppinger; Coquimbo, two adults, Aug. 25, 1879, Nov., 1881. Coppinger and A. H. Markham (British Museum).

This form differs from the typical one by slenderer bill and much paler coloration throughout, which reflects the dry nature of the country it inhabits. The dorsal surface is pale (brownish) gray instead of warm brown; the rufous of the pileum less intense and more restricted to the fore-crown; the barring of the rump buffy-white instead of ochraceous-buff; the rufous of the wings and tail lighter, cinnamon-rufous rather than hazel; the upper wing coverts less rufescent; the under parts nearly white instead of buffy; the flanks but faintly tinged with buffy instead of being strongly washed with tawny-olive or clay-color.

The series from Caldera and Coquimbo is strikingly different from *S. a. albicollis*, as represented by specimens from Valparaiso and Santiago. Even a bird in worn breeding plumage (from Coquimbo), when compared with another in corresponding condition from San José de Maipo, can readily be told apart.

S. a. atacamae replaces the typical form in the semi-arid districts of Coquimbo and Atacama.

MEASUREMENTS

| <i>S. a. albicollis</i> —Adult males | Wing | Tail | Bill |
|--|--------------------|-------------------|--|
| Three from Valparaiso | 81,81,82 | 76,76,80 | 19 ¹ ₂ ,20,21 |
| One from Santiago | 80 | 75 | 20 |
| <i>S. a. albicollis</i> —Adult females | | | |
| Four from Valparaiso | 73,77,78,81 | 74,74,74,77 | 18 ¹ ₂ ,18 ¹ ₂ ,19,20 |
| Two from Santiago | 77,79 | 72,76 | 20,20 |
| <i>S. a. atacamae</i> | | | |
| Five adult males | 74,76,76, 76,78 | 68,71,75, 76,— | 17 ¹ ₂ ,17 ¹ ₂ ,19, 20,21 |
| Four adult females | 72,74,76,76 | 65,68,71,73 | 19,19,19,20 |

140. *Scytalopus magellanicus magellanicus* (Gmelin)

Motacilla magellanica Gmelin, Syst. Nat., 1, (2), p. 979, 1789—based on "Magellanic Warbler" Latham, Gen. Syn. Bds., 2, (2), p. 464, Tierra del Fuego (descr. juv.).

Sylvia obscura King, Zool. Journ., 3, No. 11, p. 429, 1828—Port Famine, Straits of Magellan (type in British Museum examined).

Scytalopus fuscus Gould, P. Z. S. Lond., 4, "1836," p. 89, Feb., 1837—part, "in fretu Magellanico"; Jardine and Selby, Illust. Orn., (n. s.), 4, pl. 19, 1838—part, right figure; Jardine, Contrib. Orn., 1851, p. 116, pl. 77—part, right figure.

Pteroplochos albifrons Landbeck, Anal. Univ. Chile, 14, p. 182, 1857—vicinity of Valdivia; idem, Arch. Naturg., 23, (1), p. 273, 1857—Valdivia; Allen, p. 99—Chile (crit.).

Scytalopus magellanicus Darwin, p. 74—Port Famine (Tierra del Fuego), thickly wooded islets of the Chonos Archipelago, and Chiloé Island; Des Murs (2), p. 307—Chiloé, "Concepción"; Sclater (2), 1867, pp. 325, 338—part, Straits of Magellan to Valdivia (crit.); E. Reed (4), p. 202—Magallanes; Blaauw (1), p. 32—near Puerto Montt, Llanquihue; Bullock (3), p. 122—Cerro de Nahuelbuta, Malleco; idem (4), p. 174—Angol, Malleco (breeding).

Scytalopus albifrons Philippi (12), p. 255—part, Chiloé; Landbeck (9), p. 240—part, Chiloé; Ridgway (2), p. 135—Port Otway, Gulf of Peñas; Albert (1), 100, p. 599—Chile (monog.); Philippi (24), p. 40, pl. 20, fig. 4—Valdivia.

(?) *Scitalopus obscurus* Housse (3), p. 226—Isla La Mocha, Arauco.

Range in Chile.—From Malleco to the Straits of Magellan.

Material collected.—Malleco: Curacautin, ♂ ad., ♀ (first annual), Jan. 13, 14; Rio Colorado, ♂ (first annual), two ♂♂ juv., Feb. 3–7.—Valdivia: Ríñihue, ♂ juv., ♀ juv., March 11, 15.—Chiloé Island: Quellon, two ♂♂ ad., ♀ ad., ♀ (first annual), ♀ (in juvenile molt), juv., Dec. 20–Jan. 27; Rio Inio, ♂, ♀ (first annual), ♂ juv., Jan. 7–16.—Llanquihue: Rio Aisen, ♀ (first annual), April 4; Casa de Richards, Rio Ñirehuau, ♂ juv., March 13.

Additional specimens.—Cautin: Maquehue, Temuco, ♂ ad., ♂ (first annual), ♀ (first annual), Aug., Sept. D. S. Bullock (Tring and British Museums); Pelal, Temuco, ♀ (first annual), July 7, 1910. A. C. Saldaña.—Valdivia: near Valdivia, four ♂♂ (first annual). L. Landbeck, F. Ohde, and A. von Lossberg (British and Frankfort Museums).—Llanquihue: Port Otway, Tres Montes Peninsula, ♀ (first annual), ♀ juv., Feb. 10. "Albatross" Exp. (U. S. National Museum).

Specimens from southern Chile (Malleco to Llanquihue) seem to be inseparable from a series taken along the Straits of Magellan, although their measurements are perhaps, on average, slightly smaller. There has been much controversy regarding the validity of *P. albifrons*, and Philippi maintained its distinctness to the very last. He and Landbeck, the describer of that species, however, never intended to separate the South Chilean birds from those found

in the Straits of Magellan; they merely insisted on the specific distinctness of the small, slender-billed *Scytalopus* from the "Churrin" of the central provinces (*S. obscurus* auct. = *S. fuscus*), having misidentified *Eugralla paradoxa* (Kittl.) with *M. magellanica* of Gmelin, as is shown by their marked specimens transmitted to the British Museum. There is, however, no doubt whatever that Gmelin's description refers to the juvenile plumage of the *Scytalopus*, and not to *Eugralla paradoxa*, the latter not being found in Tierra del Fuego. *P. albifrons* thus becomes a synonym of *S. magellanicus*. Another synonym is *Sylvia obscura* King, the type of which has recently been rediscovered in the collection of the British Museum, where I had the privilege of examining it.

Study of over sixty specimens tends to show that birds with cinnamon-brown upper parts, black-and-buff markings on the wings, and ochraceous-barred rump and tail represent an immature stage, evidently the first annual plumage. In fully adult dress this babbler is entirely sooty gray, with but a few, more or less obsolete, black-and-ochraceous crescentic markings to the tips of the tertials and a number of narrow, ochraceous or buff cross-bands on the rump, while the ochraceous or tawny barring of the flanks is much reduced. Certain specimens, e.g. the type of *S. obscura*, an adult male from Curacautin (Malleco), and another from Lago Blanco, Chubut, have mere traces of dull ochraceous barring on rump and flanks, and an adult bird collected by Darwin at Port Famine, except for an ochraceous-and-black apical spot on the innermost tertial, is even wholly sooty gray. These individuals closely resemble *S. fuscus*, of central Chile, in coloration, but are markedly smaller in all proportions. The presence of silvery white edges to the crown-feathers is a purely individual character, for we have seen both males and females in adult and first annual plumage with and without white. When present, it is exceedingly variable, and may form isolated spots or extend in a nearly unbroken area right across the middle of the crown.

Birds from Malleco (Curacautin) are in every particular similar to those from more southern localities. A series (thirteen) from Lago Blanco, Chubut, and two adults from Nahuel Huapi are not different either.

The Magellanic Babbler ranges from the Straits all over southern Chile north to Malleco, where Bullock found it breeding in the vicinity of Angol. There is no definite record from Concepción, but as two birds from Talcaguano pertain to the large-billed north-

ern *S. m. fuscus*, it must be expected that the ranges of the two forms meet somewhere in that vicinity.

According to Landbeck, this bird is by no means rare in the dense undergrowth of damp and shady woods. It is, however, of very secretive habits, and seldom seen except during the mating season in September, when the male may be observed sitting on a bush and uttering its loud call-note, sometimes consecutively for half-an-hour or more. It is very active and alert and, when frightened, runs rapidly through the thicket, with the tail upright and the wings spread out. Its large nest, well constructed of rootlets and moss, lined inside with hair and feathers, is placed in holes on steep rocky slopes, more rarely under the roots of trees, and contains from three to four rather large, roundish, white eggs.

141. *Scytalopus magellanicus fuscus* Gould

Scytalopus fuscus Gould, P. Z. S. Lond., 4, "1836," p. 89, Feb., 1837—part, Chile; Jardine and Selby, Illust. Orn., (n. s.), 4, pl. 19, 1838—part, left figure; Jardine, Contrib. Orn., 1851, p. 116, pl. 77—part, left figure; Bridges, p. 94—Chile, 34° and 35° S. lat.; Cassin, p. 188, pl. 21, fig. 2—vicinity of Santiago (spec. in U. S. National Museum examined); Germain, p. 310—Chile (nesting habits); Pelzeln (2), p. 60—Chile; Wetmore (3), p. 289—Concon, Valparaiso (spec. examined).

Platyrus niger Swainson, Anim. Menag., p. 323, Dec., 1837—Chile (type in Liverpool Museum); Jacquinot and Pucheran, Voy. au Pôles Sud, Zool., 3, p. 91, pl. 19, fig. 1, 1853—Talcaguano (spec. in Paris Museum examined).

Conirostrum fuliginosum Lesson, Écho du Monde Sav., 11, 2nd sem., No. 2, col. 30, July 7, 1844—interior of Chile.

Merulaxis fuscoides Lafresnaye, Contrib. Orn., 4, p. 149, 1851—Chile (type in Mus. Comp. Zool., Cambridge, Mass., examined).

Conirostrum fuscum Lesson, Compl. Oeuvr. Buffon, éd. Lévêque, 20, (Descr. Mamm. et Ois.), p. 274, 1847—interior of Chile.¹

Scytalopus obscurus (not *Sylvia obscura* King) Des Murs (2), p. 308—Chile; Philippi (12), p. 255—central provinces; Landbeck (9), p. 239—Chile (vertical range); Sclater, Ibis, 1874, p. 194—central provinces (crit.); idem, Cat. B. Brit. Mus., 15, p. 340, 1890—Santiago; E. Reed (4), p. 202—Chile; Waugh and Lataste (2), p. CLXXI—San Alfonso (Quillota), Valparaiso; Albert (1), 100, p. 598—Chile (monog.); Jaffuel and Pirion, p. 110—Marga-Marga, Valparaiso.

Scytalopus fuscoides Sclater (2), 1867, pp. 325, 338—Santiago (crit.); E. Reed (2), p. 548—Valle de los Cipreses, Colchagua.

¹This is the bird previously described as *C. fuliginosum*, whose identity with *Scytalopus fuscus* of Gould the author, in the meantime, had apparently discovered.

*Scytalopus magellanicus*¹ (not of *Motacilla magellanica* Gmelin) Sclater (2), 1867, p. 325—part, Colchagua; idem, Cat. B. Brit. Mus., 15, p. 338, 1890—part, spec. n, p-w, Colchagua, Santiago, Chile (spec. in British Museum examined).

Scytalopus albifrons (not of Landbeck) Philippi (12), p. 255—part, Colchagua; E. Reed (2), p. 548—Valle de los Cipreses, Colchagua; Landbeck (9), p. 240—part, Colchagua.

Scytalopus niger Ménégaux and Hellmayr, Bull. Mus. Hist. Nat. Paris, 11, p. 379, 1905—part, Talcaguano, Chile (crit.); Chapman, Auk, 32, p. 411, 1915—part, Valparaiso; Barros (4), p. 142—Nilahue Valley, Curicó; Housse (2), p. 143—San Bernardo, Santiago; Barros (11), p. 315—Ojos de Agua, near Juncal, Prov. Santiago.

Range in Chile.—From Coquimbo (Tofo) to Concepción (Talcaguano).

Material collected.—Valparaiso: Olmué, two ♂♂ ad., May 26, June 2.—Maule: Pilen Alto, eight miles west of Cauquenes, ♀ imm., May 12.

Additional specimens.—Coquimbo: Tofo, sixty miles north of Coquimbo, ♂ juv., May 6, 1917. T. Hallinan (American Museum of Natural History, New York).—Valparaiso: Concon, ♂ ad., April 27, 1921. A. Wetmore (U. S. National Museum); Valparaiso, ♂ ad., Nov. 6, 1913. R. H. Beck (American Museum of Natural History, New York).—Santiago: Vicinity of Santiago, two ♂♂ ad., one ♀ ad., July, 1865, Aug., 1864. Philippi and Landbeck (British Museum); ♂ ad., ♀ imm., 1870. F. Leybold (British Museum).—Colchagua: Talcaregua, near San Fernando, ♂ ad., ♀ ad., Nov., 1866. L. Landbeck (Berlin Museum); Cordillera de Cauquenes, ♀ juv. E. C. Reed (Tring Museum); "Colchagua," ♂ ad., Nov., 1865. L. Landbeck (British Museum).—Concepción: Talcaguano, two adults. Voyage of the "Astrolabe" (Paris Museum).—"Chile:" thirteen adults and young (British, Tring, and Frankfort Museums).

When compiling the account of this genus for the "Catalogue of Birds of the Americas,"² we placed the Dusky Babbler far away from *S. magellanicus*. Since that time, we have had an opportunity of examining a large amount of additional material, and careful investigation of the case led us to the conclusion that the two birds were closely related. As a matter of fact, the only absolutely constant characters of distinction are the longer tail, the stronger legs, and the larger bill of the northern form. The wing measurements,

¹It is hard to say what *S. magellanicus* Fraser (P. Z. S. Lond., 11, p. 111, 1843—"various parts of Chile") may be. The vernacular name, "Chircan negro," is often used by the natives of Chile to designate *Eugralla paradoxa* (Kittlitz).

²Field Mus. Nat. Hist., Zool. Ser., 13, Part 3, p. 10, 1924.

while generally greater in *S. fuscus*, are somewhat variable, and do not constitute a thoroughly reliable criterion. As far as coloration is concerned, it must be admitted that *S. fuscus (niger)*, as a rule, is more uniform, the buffy barring, if present, being rather obsolete and restricted to the lower flanks, under tail coverts, and some of the uropygial feathers. Similar examples, however, occasionally occur in the range of *S. magellanicus*, as has been demonstrated under that species.

Adult birds exhibit much variation, not only in the amount of buffy-and-dusky barring, which, though narrow, is fairly pronounced on the flanks and under tail coverts in some, barely suggested by slight traces in others, but also in the intensity of the general coloring of the body plumage, which varies from dark mouse-gray to blackish slate, the ventral surface being always somewhat lighter than the upper parts. This color usually passes into black with a faint silky gloss on forehead and anterior crown; but in some specimens from Santiago and an adult male from Mendoza (Horcones Valley, 11,500 feet, April 20, 1897. P. H. Gosse) the anterior portion of the pileum is silky gray, paler than the hind-crown, thus more like *S. magellanicus*. The wings are as a rule unmarked, though sometimes a few indistinct, pale brownish apical, and dusky subterminal bars may be present. What I take to be the first-annual plumage is washed with cinnamon-brown above, faintly cross-marked with dusky. The juvenile plumage is similar to that of *S. magellanicus*, but paler, less rufous throughout, with the markings less distinct.

Three adult birds in gray plumage from Colchagua agree with the series from Santiago and Valparaiso in size and general coloration, but form the transition to *S. magellanicus* by having the crown-feathers broadly edged with silvery-white. Such a specimen was already recorded from the Valle de los Cipreses, Colchagua, by Edwyn Reed,¹ who felt inclined to regard it as a mere variety of the ordinary "Churrin" of the region. If Landbeck gives the range of *S. albifrons* as extending to Colchagua, he was no doubt influenced by the occasional occurrence of white-crowned birds in that province. On the other hand, a female (first annual) collected by Sanborn at Pilen Alto, Maule, and two adults from Talcaguano in the Paris Museum have no trace of white on the crown, and seem to be typical of *S. m. fuscus*.

The geographical distribution of *S. m. fuscus* thus appears to comprise the whole of central Chile, from Concepción north to the

¹ Anal. Univ. Chile, 49, p. 548, 1877.

confines of Atacama, the most northerly locality on record being Tofo, sixty miles north of Coquimbo, whence T. Hallinan obtained a specimen for the American Museum of Natural History.

According to Landbeck, the "Churrin" is by no means uncommon in damp ravines, along creeks, and in dense brushwoods. Its habits are said to be similar to those of *S. magellanicus*. Germain reports that it lays in October or November two eggs in a nest rather badly made, which it conceals under brushwood in the vegetable detritus, and which it approaches through a gallery or corridor, made of the same material in which the nest is placed; but it is perhaps a little doubtful if these notes really refer to the present species.

About its vertical distribution, little definite information is available. All the specimens we have seen are from near the sea-coast or from the foothills of the Andes. Landbeck states that it ranges up to an elevation of 10,000 feet. A single example in juvenile plumage obtained by R. Barros¹ on the Rio de Castro, Aconcagua, at an altitude of 2,650 meters on February 21, 1923, however, seems too different to be referred to *S. m. fuscus*. On the other hand, an adult male from the Horcones Valley (alt. 11,500 feet), west of Mendoza, in the collection of the British Museum I am unable to separate from Santiago specimens. More material is needed to ascertain whether there is more than one species in the Andes of central Chile.

MEASUREMENTS OF ADULTS

| <i>S. magellanicus magellanicus</i> | Wing | Tail | Tarsus | Bill |
|---|--------------------------------|-----------------|-----------------------------------|--------------------------------------|
| Unsexed type of <i>S. obscura</i> | 51 | 30 | — | — |
| Two from Hermit Island, Magellan Straits | 52,54 | 35,36 | 18.19 | 10 ¹ / ₂ , 11 |
| One from Port Famine, Tierra del Fuego | 52 | 32 | — | 11 |
| Males | | | | |
| One from Chiloé Island | 50 | 32 | 19 | 10 ¹ / ₂ |
| One from Valdivia | 50 | 32 | 19 | 12 |
| One from Temuco, Cautin | 52 | 32 | 20 | 11 |
| Two from Malleco (Curacautin) | 50,50 | 32,32 | 18,18 | 10 ¹ / ₂ , 11 |
| Four from Lago Blanco, Chubut | 48,49,50, 51 | 30,30,31, 31 | 17-18 ¹ / ₂ | 10 ¹ / ₂ -11 |
| One from Nahuel Huapi, Neuquen | 47 | 31 | 18 ¹ / ₂ | 11 |
| Females | | | | |
| Two from Chiloé Island | 47,49 | 29,31 | 17,18 ¹ / ₂ | 10,11 |
| Three from Lago Blanco, Chubut | 47,49,49 | 28,29,30 | 17,17,18 | 9 ¹ / ₂ , 10.— |
| One from Nahuel Huapi, Neuquen | 47 ¹ / ₂ | 29 | 18 | 10 |

¹*Scytalopus niger* Barros, Rev. Chil. Hist. Nat., 25, p. 179, 1923—Cajon de Castro, Rio Blanco, Guardia Vieja, Ojos de Agua, and Valle de los Piuquenes, Cordillera of Aconcagua.

| <i>S. magellanicus fuscus</i> | Wing | Tail | Tarsus | Bill |
|-----------------------------------|--|--|-----------------|-----------------------------------|
| Males | | | | |
| Four from Valparaiso | 51,51, 52 ¹ / ₂ ,52 ¹ / ₂ | 39 ¹ / ₂ ,40, 42,44 | 17,18, 19,19 | 12-13 ¹ / ₂ |
| Three from Santiago | 52,54,56 | 39,40,41 | 18,18,19 | 12,12,18 |
| One from Colchagua | 55 | 39 | 20 | 12 |
| One from Talcalegua, Colchagua | 57 | — | 20 | 12 |
| One from Horcones Valley, Mendoza | 58 | — | 19 | 12 ¹ / ₂ |
| Females | | | | |
| Two from Santiago | 49,55 | 40,— | 19,19 | 12,12 |
| One from Talcalegua, Colchagua | 55 | 38 | 20 | — |
| Type of <i>S. fuscoides</i> | 50 | 40 | — | 11 ¹ / ₂ |

142. *Eugralla*¹ *paradoxa* (Kittlitz)

Troglodytes paradoxus Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 1, livr. 2, p. 184, pl. 5, 1830—La Concepción, Chile (descr. of young female); Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 15, 1921—"El Tomé," near Concepción (type in Leningrad Museum).

Malacorhynchus chilensis "Kittlitz," Ménétrès, Mém. Ac. Sci. St. Pétersb., 6th ser., 3, Part 2, (Sci. Nat.), p. 527, 1835—near Concepción.

Mer[ulaxis] analis Lafresnaye, Rev. Zool., 3, p. 104, 1840—Paraguay or Chile; idem, Contrib. Orn., 1851, p. 149; Des Murs (2), p. 309—Chile (ex Lafresnaye).

Megalonyx nanus Lesson,² Rev. Zool., 5, p. 135, May, 1842—Chiloé Island (descr. of adult and young); idem, Act. Soc. Linn. Bordeaux, 12, p. 197, Sept., 1842—Chiloé Island; Lafresnaye, Contrib. Orn., 1851, p. 150—Chiloé (ex Lesson).

Pteroptochos (us) paradoxus Darwin, p. 73—Valdivia and Chiloé; Des Murs (2), p. 305—Valdivia and Chiloé; Philippi (12), p. 255—"Valdivia" (ex Kittlitz).

Pteroptochos nanus Des Murs (2), p. 306—Chiloé (ex Lesson).

Triptorhinus paradoxus Hartlaub (3), p. 211—Valdivia (crit.); Sclater (2), 1867, pp. 325, 338—Valdivia; idem, Ibis, 1874, p. 205—Valdivia (crit.); E. Reed (4), p. 203—Isla La Mocha, Arauco; Lane, p. 45—Coronel, Concepción, and Calle-Calle, Valdivia, and Chiloé (habits); Passler (3), p. 453—Coronel (habits, nest, and eggs); Housse (1), p. 49—Isla La Mocha, Arauco.

Malacorhamphus araucanus Kittlitz, Denkw., 1, p. 124, 1858—San-Tomé, Concepción.

Scytalopus magellanicus (errore) Philippi (12), p. 255—Concepción to "Magelania" (cf. Sclater, P. Z. S. Lond., 1867, p. 325); Albert (1), 101, p. 594—Chile (monog.); idem (2), 2, p. 94—Chile (crit.).

¹*Eugralla* Lesson (Act. Soc. Linn. Bordeaux, 12, No. 41, p. 197, Sept. 15, 1842), proposed as a subgenus for *Troglodytes paradoxus* Kittlitz and *Megalonyx nanus* Lesson, takes precedence over *Triptorhinus* Cabanis (Arch. Naturg., 13, (1), p. 219, 1847). The name, though listed by Sherborn, has been completely overlooked.

²Included in the synonymy of *Scytalopus magellanicus* in Field Mus. Nat. Hist., Zool. Ser., 13, Part 3, p. 18, 1924. The fuller account in the Act. Soc. Linn. Bord. since consulted leaves, however, no doubt as to *M. nanus* being Kittlitz's Babbler, as was pointed out long ago by Hartlaub (Naumannia, 1853, p. 212).

Scytalopus paradoxus Landbeck (9), p. 240—from Chiloé to "Colchagua."

Scytalopus obscurus (errore)¹ Bullock (3), p. 122—Cerro de Nahuelbuta, Malleco; idem (4), p. 174—Angol, Malleco (breeding).

Range in Chile.—Southern provinces, from Maule to Chiloé.

Material collected.—Maule: Pilen Alto, eight miles west of Cauquenes, ♀ ad., May 11.—Concepción: Hacienda Gualpencillo, four ♂♂ ad., four ♀♀ ad., April 11–29.—Malleco: Curacautin, three ♂♂ ad., Jan. 9–12.—Valdivia: Máfil, ♀ juv., Feb. 16.—Chiloé Island: Quellon, two ♂♂ ad., one ♀ ad., one ♂ juv., one ♀ juv., Dec. 22–Jan. 27.

Adult birds do not show any sexual difference either in size or coloration. Regardless of sex, the gray color below is subject to some variation in intensity; in a good many specimens it passes into whitish along the middle of the abdomen, but in others it is nearly uniform. The juvenile plumage is barred above with black and rufescent brown; the rump extensively tawny brown; the sides of the head buffy, edged with dusky; the lower surface dingy whitish, with transverse bars of dusky on the breast, and the flanks bright ochraceous tawny, strongly banded with black; the lower mandible yellowish. A specimen in change of plumage formed the basis of *Troglodytes paradoxus*, while Lesson, twelve years later, described both adult and young birds as *Megalonyx nanus*, attributing the differences to sex and failing to recognize its identity with Kittlitz's species. *Merulaxis analis* Lafresnaye, long misapplied to a species of the genus *Scytalopus*, turned out to have been founded on an adult of Kittlitz's Babbler, as was first pointed out by Chapman (Auk, 32, p. 418, 1915). Philippi and Albert inconceivably mistook the present species for *Scytalopus magellanicus*, although the two birds have very little in common. Birds from Isla La Mocha are said to be somewhat different in proportions.

The "Churrin de la Mocha" of the Chileans is widely distributed in southern Chile, particularly from Concepción to Chiloé. Its southward range does not extend beyond this island, while the most northerly locality on record is Pilen Alto, in the vicinity of Cauquenes, Maule, where C. Sanborn secured an adult female in fresh plumage on May 11. That it ever occurs as far north as Colchagua, as claimed by Landbeck, appears to be open to doubt. According to Edwyn Reed and Housse, it is plentiful on the Isla La Mocha.

These birds prefer "quila"-thickets along rivers, but are also found in thick bushy pastures. According to Lane and Pässler, they keep

¹Mr. Bullock, on a recent visit to Chicago, found out that the bird recorded by him under the above name is actually the present species.

mostly to the ground or to the bottom of the thickets, creeping along twigs and branches in a peculiar way, "which is neither hopping nor running, but more like the motion of tree-creepers than anything." On the ground they hop and take little runs, like the species of *Pteroptochos*, but they hardly ever fly. As we are told by Pässler, they have two broods, one around the end of September, and the second in the latter half of November. The nest, composed of dry grass and sticks, is placed one to five feet above the ground among leaves and twigs in a thick bush. The two eggs are broadly oval to nearly elliptic and white, with a smooth, slightly glossy shell.

143. *Patagona gigas gigas* (Vieillot)

Trochilus gigas Vieillot [and Oudart], Galerie Ois., 1, (2), p. 296, pl. 180, 1824—"Brésil," errore, we suggest Valparaíso, Chile; Poeppig (1), p. 153—Valparaíso; Darwin, p. 111—Valparaíso (habits and nest); Fraser (1), p. 114—Valparaíso; Lesson, Écho du Monde Sav., 10, 2nd sem., No. 11, col. 255, 1843—"Valdivia" (nest descr.); Des Murs (2), p. 273; Bibra, p. 128—the whole of Chile except the extreme south, common around Valparaíso (habits, anatomy); Cassin, p. 186—Chile; Philippi (12), p. 249—central provinces; Landbeck, Zool. Garten, 17, p. 228, 1876—Santiago (habits); Lataste (1), p. CXV—Cordillera of Aculeo, Santiago; Waugh and Lataste (1), p. LXXXIV—Peñaflor, Santiago.

Ornismya tristis Lesson, Hist. Nat. Ois.-Mouch., p. 43, pl. 3, 1829—"l'intérieur du Chile, et s'avance dans le pays des Araucanos, et jusque dans les pampas sauvages des Puelches, au sud du Vieux—Chili, et au pied des Andes."

Ornismya gigantea Lafresnaye and d'Orbigny, Syn. Av., 2, in Mag. Zool., 8, cl. 2, p. 26, 1838—Valparaíso.

Patagona gigas Pelzelin (2), p. 54—Santiago; Sclater and Salvin (2), Ibis, 1870, p. 499—La Compañía, Coquimbo; Allen, p. 100—Valparaíso; Sclater (2), 1867, pp. 328, 338; Sharpe, p. 9—Coquimbo; E. Reed (4), p. 203—Chile; Albert (1), 100, p. 622—part, southern Chile; idem, Rev. Chil. Hist. Nat., 2, p. 141—part, southern Chile; Schalow (2), p. 703—Punta Teatinos, La Serena, Coquimbo; Barros (4), p. 141—Nilahue, Curicó; idem (5), p. 178—Cordillera of Aconcagua; Pässler (3), p. 452—Coronel and Smyth's Channel (habits); Housse (2), p. 143—San Bernardo; Gigoux, p. 85—Caldera; Jaffuel and Pirion, p. 105—Marga-Marga Valley, Valparaíso.

Patagonas gigas E. Reed (2), p. 554—Cauquenes, Colchagua.

Patagona gigas gigas Dabbene, p. 495—Chile (monog.).

Range in Chile.—Central provinces, from Atacama to Concepción, occasionally straggling as far south as Valdivia and Smyth's Channel.

Material collected.—Atacama: Caldera, three ♂♂ ad., one ♂ imm., two ♀♀ ad., Sept. 23–29, Dec. 7. E. Gigoux.—Coquimbo: La Compañía, ♂ ad., Oct. 31.—Aconcagua: Papudo, "♀" [= ♂?]

ad., Sept. 15. J. Wolffsohn.—Valparaiso: Maitenes, Limache, ♂ ad., ♀ ad., Oct. 7, Dec. 2. J. Wolffsohn.—Santiago: San José de Maipo (alt. 3,000 feet), ♂ ad., Dec. 19.—“Chile” (unspecified): ♂ ad. E. C. Reed.

Although the late Eugène Simon (Hist. Nat. Troch., p. 157) questioned the possibility of discriminating any geographic races of the Giant Humming bird, the study of between fifty and sixty properly labeled specimens from the whole range clearly indicates the existence of two forms.

Birds from central Chile (Atacama to Santiago) are characterized by small size, short, slender bill, and mainly grayish under parts, without any chestnut on the lower throat and with rather indistinct dusky streaks on the chin. Specimens from Bolivia, Peru, and Ecuador are decidedly larger, with stouter, longer bill, and the ventral surface is much more suffused with rufescent, the abdomen being often bright cinnamon-rufous. The throat is much more heavily streaked with black and strongly washed or edged with cinnamon-rufous on the lower portion. There is a certain amount of variation in the extent and intensity of the rufous color underneath, but this seems to be purely individual and not to depend on either sex or age. While the palest examples of the northern form can be closely matched by one or two unusually rufous-bellied birds from central Chile, the general run of the two series is easily told apart.

Oudart's plate of *T. gigas*, based on an evidently immature bird from “Brésil” in the collection of “M. Portier, attaché au ministère de la marine,” while none too good, corresponds fairly well to certain bright-colored Chilean specimens, such as No. 61,676, Caldera, and accordingly I propose to restrict Vieillot's term to the small southern form suggesting Valparaiso as type locality.

The larger northern race is entitled to the name *P. gigas peruviana*,¹ tentatively proposed by Boucard for a specimen from Peru in his collection. The type, a male obtained by H. Whitely on June 15, 1868, at Tinta, Dept. Cuzco, agrees with the average of our Peruvian series, while *P. boliviana* was based on an individual variant with wholly cinnamon-rufous under parts, represented in our material by a female from Huánuco Viejo and a male from Macate, Peru.

¹Simon's statement (l. c., p. 356, note 2) that *P. peruviana* and *P. boliviana* are nomina nuda is a mistake, since both are characterized in the preceding paragraphs, although several of the characters claimed by Boucard prove to be individual.

According to Landbeck, Reed, and Barros, *P. g. gigas* inhabits in summer the Cordilleras of Aconcagua, Santiago, Colchagua, and Curicó from the foothills up to about 6,000 feet. After the breeding season, around the end of February, it disappears from its nesting haunts, and does not return until August. Pässler, however, found it also breeding at Coronel (near Concepción), though he did not see any in that neighborhood from June to August.¹ The birds probably migrate northwards, but a few, at least, cross the Andes on their migration, as is shown by specimens obtained by E. W. White on September 20, 1880, at Fuerte de Andalgala, Catamarca (Tring Museum), and by L. Dinelli on August 14, 1916, at Colalao del Valle, Tucumán (Field Museum), both of which clearly pertain to the Chilean race.

144. *Patagona gigas peruviana* Boucard

Patagonia peruviana Boucard, Gen. Humming Birds, p. 61, 1893—"Peru" (the type examined in the Paris Museum was obtained by H. Whitely, Jr., on June 15, 1868, at Tinta, Dept. Cuzco).

Patagona gigas Albert (1), 100, p. 622—part, northern Chile; idem, Rev. Chil. Hist. Nat., 2, p. 141—part, northern Chile.

Range in Chile.—Extreme north, in province of Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), three ♂ ad., July 3, 1924.

These birds cannot be separated from our Peruvian series, but are much larger and more rufous below than *P. g. gigas* of central Chile. Like one of our specimens from Huánuco Viejo, Peru, all three have the throat nearly entirely rufous, with but a few blackish spots, and the whole under parts strongly rufescent.

P. g. peruviana, whose distinguishing features have been discussed under the preceding heading, replaces the typical form in the Andes of Ecuador, Peru, Bolivia, and extreme northern Chile. It is probably also this race that nests in northwestern Argentina, although I have not been able to examine undoubted breeding specimens. An adult male from Tilcara, Jujuy (Nov. 24, 1905; L. Dinelli), and a couple from Lara, Tucumán (Feb. 12, 1903; G. A. Baer), all in the Tring Museum, are in every particular typical of the large northern form.

¹Lesson (Écho du Monde Sav., 10, 2nd sem., No. 11, col. 255, 1843) describes the nest of the Giant Humming bird received by his brother from the environs of Valdivia, but I venture to question the correctness of the locality.

MEASUREMENTS OF ADULTS

| <i>P. gigas gigas</i> —Males | Wing | Tail | Bill |
|---|---|---|--|
| Three from Caldera, Atacama | 123,127,129 | 80,82,83 | 34,34.35 |
| One from La Compañía, Coquimbo | 127 | 80 | 33 |
| One from Papudo, Aconcagua | 128 | 80 | 34 |
| One from Limache, Valparaíso | 122 | 79 | 35 |
| One from San José de Maipo, Santiago | 128 | 79 | 33 |
| One from Fuerte de Andalgalá, Catamarca | 120 | 81 | 34 |
| <i>P. gigas gigas</i> —Females | | | |
| Two from Caldera, Atacama | 118,118 | 77,77 | 35,— |
| One from Limache, Valparaíso | 121 | 70 | 34 |
| One from Colalao del Valle, Tucumán | 118 | 76 | 34 |
| <i>P. gigas peruviana</i> —Males | | | |
| Two from Ecuador | 133,134 | 83,83 | 37,37 |
| Twelve from Macate, Ancachs, Peru | 133,134,135,135, 135,137,137,138, 138,138,138,139 | 83,83,85,85, 86,87,87,87, 88,88,90,90 | 38,38,38,39, 39,39,39,39, 39½,40,41,42 |
| One from near Otuzco, Peru | 135 | 85 | 38 |
| One from Cajamarca, Peru | 137 | 85 | 38 |
| One from Matucana, Lima, Peru | 134 | 84 | 36 |
| Two from Tinta, Cuzco, Peru | 135,138 | 83,83 | 37,39 |
| Three from Tacna, Chile | 138,139,140 | 85,85,88 | 39,39½,40 |
| One from Bolivia | 138 | 90 | 36 |
| One from Tilcara, Jujuy | 136 | 86 | 36½ |
| One from Lara, Tucumán | 135 | 88 | 37 |
| <i>P. gigas peruviana</i> —Females | | | |
| Four from Macate, Ancachs, Peru | 129,130,130,134 | 78,83,87,87 | 39,39½,40,41 |
| One from Huánuco, Peru | 131 | 85 | 38 |
| One from Cullui, Peru | 130 | 84 | 40 |
| One from Tinta, Cuzco, Peru | 126 | 81 | 38 |
| One from Lara, Tucumán | 137 | 87 | 39 |

145. *Sephanoides*¹ *sephaniodes* (Lesson and Garnot)

Orthorynchus sephaniodes Lesson and Garnot, Voy. Coquille, Zool., livr. 4, pl. 81, fig. 2, July 25, 1827—no locality given; the type came from the vicinity of Talcaguano, Concepción (see Lesson, Voy. Coquille, Zool., 1, (2), p. 681, 1830).

Mellisuga kingii Vigors, Zool. Journ., 3, No. 11, p. 432, Dec., 1827 (or later)—Port Gallant, Straits of Magellan.

Ornismya sephaniodes Lesson, Man. d'Orn., 2, p. 80, 1828—Talcaguano, Concepción.

Ornismya sephanioides Lafresnaye and d'Orbigny, Syn. Av., 2, p. 29, 1838—Valparaíso.

Trochilus forficatus (not of Linnaeus) Darwin, p. 110—Chiloé and Chonos Islands (breeding) and Valparaíso.

¹*Sephanoides*—having been introduced by Gray (List Gen. Birds, p. 14, 1840) as a latin generic name with *Mellisuga kingii* Vigors as type—takes priority over *Eustephanus* Reichenbach, 1849.

Trochilus galeritus (not of Molina)¹ Fraser (1), p. 115—Valparaiso, south to Chiloé; Cassin, p. 187—Chile.

Trochilus sephanoides Des Murs (2), p. 275—Copiapó to Valdivia and Straits of Magellan; Boeck, p. 499—Valdivia and Chiloé; Kittlitz (3), p. 117—near San-Tomé, Concepción; Frauenfeld, p. 637—Valparaiso; Philippi (12), p. 249—Chile and Juan Fernandez; Landbeck, Zool. Garten, 17, p. 228, 1876—Chile, north to Atacama; Waugh and Lataste (1), p. LXXXIV—Peñaflor, Santiago; idem (2), p. CLXX—San Alfonso, Valparaiso; idem (3), p. LIX—Peñaflor, Santiago.

Stephanoides galeritus Hartlaub (3), p. 210—Valdivia.

Trochilus verreauxii (not of Bourcier) Bibra, p. 129—Canyons around Valparaiso.

Eustephanus galeritus Pelzeln (2), p. 54—near Santiago; Sclater (2), 1867, pp. 328, 338—Chile, south to Tierra del Fuego; Sclater and Salvin, Ibis, 1869, p. 283—Chiloé; Sclater, Ibis, 1871, p. 181—Mas A Tierra; E. Reed, Ibis, 1874, pp. 82, 83—Mas A Tierra; idem (2), p. 554—Cauquenes, Colchagua; Sclater and Salvin (3), p. 433—Juan Fernandez and Puerto Bueno; Sharpe, p. 9—Cockle Cove, Straits of Magellan; Salvin (2), p. 425—Juan Fernandez; Ridgway (2), p. 135—Port Otway; MacFarlane, Ibis, 1887, p. 215—Juan Fernandez; Johow, p. 237—Mas A Tierra; E. Reed (4), p. 203—Chile and Juan Fernandez; Lane, p. 46—Corral (Valdivia) and Arauco; Albert, Rev. Chil. Hist. Nat., 2, p. 139—Chile and Juan Fernandez; idem (1), 100, p. 613—Juan Fernandez and Chile, north to Copiapó; Schalow (2), pp. 703, 745—Tumbes (Concepción) and Mas A Tierra; C. Reed, Av. Prov. Concepción, p. 20—Cerro del Caracol, Concepción; Barros (4), p. 141—Nilahue, Curicó; idem (5), p. 178—Cordillera of Aconcagua; Housse (1), p. 49—Isla La Mocha; idem (2), p. 143—San Bernardo; Lonnberg, p. 7—Mas A Tierra; Passler (3), p. 453—Coronel (nest); Gigoux, p. 85—Caldera; Jaffuel and Pirion, p. 105—Marga-Marga Valley, Valparaiso.

Sephanoides galeritus Wetmore (3), p. 230—Concon, Valparaiso; Dabbene, p. 497—Chile (monog.).

Eustephanus burtoni Boucard, The Humming Bird, 1, p. 18, 1891—Chile (type in Paris Museum examined).

Oreotrochilus leucopleurus (errore) Bullock (3), p. 122—Cerro de Nahuelbuta, Malleco; idem (4), p. 174—Angol, Malleco (breeding).

Range in Chile.—From Atacama to the Straits of Magellan, and Mas A Tierra Island.

Material collected.—Atacama: Caldera, four ♂♂ ad., May 11, June 10–18, 1924. E. Gigoux.—Aconcagua: Los Andes, two ♂♂ ad., May 15, 16, 1925. R. Barros.—Valdivia: Máfil, two ♂♂ ad., Feb. 14, 26; Ríñihue, ♂ ad., March 6.—Chiloé: Quellon, one ♂

¹*Trochilus galeritus* Molina (Saggio Hist. Nat. Chile, pp. 247, 343, 1782) seems to me a fictitious bird. Anyhow, I do not see how the description, "il suo becco è curvo, . . . tutta la parte inferiore del suo corpo e di un colore di aurora cangiante," can possibly apply to the Fire-crested Humming bird of Chile.

ad., five ♂♂ imm., one ♀ imm., Dec. 27–Jan. 31.—Guaitecas Islands: San Pedro Island, ♂ vix ad., Jan. 22.

Additional specimens.—Santiago: Peñaflor, three ♂♂ ad., March, April, 1894. F. Lataste.—“Chile” (unspecified): ♂ ad. (type of *E. burtoni* Bouc.) (Paris Museum).—Mas A Tierra: ♂ ad., ♀ ad., Jan., 1894. L. Plate (Berlin Museum).

So far as I can see, there is no local variation in this species, specimens from the extreme northern part of the range being exactly similar to others from Chiloé. The type of *E. burtoni*, an adult male in good condition, differs by having the pileum glittering golden orange instead of orange red, and the back of a slightly purer, less bronzy green. There can be little doubt that it is merely an individual variant of the ordinary form, an opinion in which Count Berlepsch and E. Simon, both of whom had seen the type, also concurred.

S. sephaniodes is widely distributed in Chile, ranging from sea level up to about 6,000 feet. While not truly migratory, this humming bird is stated by various observers to have certain seasonal displacements. Outside of Chile proper, it is known to occur on Mas A Tierra and in the western districts of Neuquen, Rio Negro, and Chubut, Argentina. The few examples seen from Mas A Tierra appear to me inseparable from mainland birds.¹

146. *Oreotrochilus leucopleurus* Gould

Oreotrochilus leucopleurus Gould, P. Z. S. Lond., 15, p. 10, March, 1847—“the Chilian Cordilleras”;² Pelzeln (2), p. 54; Sclater (2), 1867, pp. 328, 338—vertical range; E. Reed (2), p. 553—Colchagua; idem (4), p. 203—central provinces; Albert (1), 100, p. 619—central Chile to Atacama; idem (2), Rev. Chil. Hist. Nat., 2, p. 141—Cordilleras up to 10,000 feet; Barros (5), p. 178—Rio Blanco, Aconcagua; idem (8), p. 141—Aconcagua; Jaffuel and Pirion, p. 105—cerros of Marga-Marga Valley, Valparaiso; Dabbene, p. 496—Chile (monog.); Barros (10), p. 359—Aconcagua.

Trochilus millerii (not of Bourcier) Fraser (1), p. 114—Los Ojos de Agua (alt. 6,000 to 8,000 feet), Aconcagua.

Trochilus leucopleurus Des Murs and Gay, p. 277—type stated to have been secured in the Cordillera of Copiapó, Atacama; Bibra, p. 129—Cordillera [of Santiago]; Cassin, p. 187—Andes [of Chile]; Philippi, Reise Wüste Atacama, p. 161—Hueso Parado (alt. 1,000 feet), southern Antofagasta; Philippi (12), p. 250—Cordilleras of central Chile north to Atacama; Landbeck, Zool. Garten, 17, p. 227, 1876—Chile (ecology); Philippi, Ornith., 4, p. 158—Hueso Parado, Antofagasta.

¹On Mas A Tierra, furthermore, *Thaumaste f. fernandensis* (King) is found, replaced on Mas Afuera by *T. fernandensis leiboldi* (Gould).

²The type specimen was collected by Gay in the Cordillera of Copiapó (see Gay, p. 277).

Range in Chile.—Cordilleras of the central provinces, from Colchagua (Baños de Cauquenes) to southern Antofagasta (Hueso Parado, near Taltal).

Material examined.—Santiago: Andes of Santiago, ♂ ad., ♂ juv. L. Landbeck (British Museum).—Aconcagua: Los Ojos de Agua, three ♂ ♂ ad., two ♀ ♀ ad. T. Bridges (British Museum).—“Andes of Chile;” five ♂ ♂ ad., two ♀ ♀ ad. E. C. Reed (Munich, Paris, and Field Museums).

The “Picaflor de la Cordillera,” as its name implies, inhabits the higher slopes of the Andes from 5,000 feet up to the edge of the perpetual snow. According to Landbeck, who describes its breeding habits, it disappears from the nesting grounds at the end of the summer, and returns again in September. Similar observations were made by R. Barros in Aconcagua, where it arrives late in September or early in October, repairing to higher altitudes in December, and leaves for the north in March and April. Philippi obtained the species, in mid-summer, not far from the coast at Hueso Parado, Antofagasta, at an elevation of hardly more than 1,000 feet. This locality marks not only the most northerly point of its geographical distribution, but also the lower limit of its altitudinal range.

Birds from Puente del Inca, west of Mendoza, are inseparable from Chilean specimens, while others from Tucumán (Colalao del Valle, alt. 2,500 meters) and Jujuy (Abra Pampa, alt. 3,500 meters) are slightly larger and paler above, with the median rectrices more decidedly green.

147. *Oreotrochilus estella* (Lafresnaye and d'Orbigny)

Trochilus estella Lafresnaye and d'Orbigny, Syn. Av., 2, in Mag. Zool., 8, cl. 2, p. 32, 1838—La Paz and Potosi, Bolivia (type in Paris Museum examined).

Oreotrochilus leucopleurus (not of Gould) Sclater (4), 1886, p. 398—Chumisa and “Lalcalhuay,” Tarapacá (spec. examined).

Range in Chile.—Extreme north, in provinces of Tarapacá and Tacna.

Material collected.—Tacna: Putre (alt. 11,600 feet), two ♂ ♂ ad., one ♂ vix ad., two ♀ ♀ ad., one ♀ imm., June 8–July 4, 1924.

Additional specimens.—Tarapacá: Chumisa, ♀ ad., Jan. 11, 1886; “Lalcalhuay,” ♀ ad., Jan. 30, 1886. C. F. Rahmer (British Museum).

Compared with Bolivian specimens, the adults have the outermost rectrix somewhat narrower and slightly incurved apically, thus diverging in the direction of *O. leucopleurus*. The dusky area on this

feather is also more extensive, though not quite so much, nor so deeply bluish black, as in *O. leucopleurus*. This variation, together with the intermediate character of the unique type of *O. bolivianus* Boucard, which I have recently re-examined in the Paris Museum, appears to indicate subspecific relationship of the two "species." Both are, however, listed by Lillo¹ for the Tucumán region, and, until more definite information about their breeding ranges in Argentina becomes available, it seems unwise to reduce them to subspecific rank.

The two females from Tarapacá, one taken with nest and two eggs, agree with ours, and are undoubtedly referable to *O. estella*.

An immature female (from Putre) is much darker, washed with avellaneous, underneath.

Within the Chilean boundaries, *O. estella* has been recorded only from the elevated parts of the Cordilleras of Tarapacá and Tacna, where it evidently replaces *O. leucopleurus*.

148. *Metallura phoebe* (Lesson and Delattre)

O[rnismia] phoebe Lesson and Delattre, Rev. Zool., 2, p. 17, 1839—"Cordilière des Andes au Pérou."

Trochilus (—?) *cupricauda* Gould, P. Z. S. Lond., 14, p. 87, Nov., 1846—"Bolivia."

Metallura cupreicauda Gould, Monog. Troch., 3, text to pl. 191, 1859—"Valley of Palea [sic], near Tacna."

Range in Chile.—Extreme northern section, in province of Tacna.

Gould states that the typical specimens of his *T. cupricauda*, an obvious synonym of *M. phoebe*, were secured by T. Bridges in the valley of Palca [misspelled "Palea"], above Tacna, in the province of the same name. Although the species has not been found again in that district, its occurrence there is very likely, since it is known to inhabit the neighboring Peruvian Department of Arequipa, where H. Whitely collected specimens at Chihuata.

149. *Rhodopis vesper vesper* (Lesson)

Ornismia vesper Lesson, Hist. Nat. Ois.-Mouch., pp. XV, 85, pl. 29, 1829—"le Chili, non loin de Valparaiso," errore (type in Paris Museum examined); Lafresnaye and d'Orbigny, Syn. Av., 2, p. 28, 1838—Tacna; Des Murs (2), p. 274—"Valparaiso" (ex Lesson).

Lucifer vesper Bonaparte, Compt. Rend. Ac. Sci. Paris, 38, p. 660, 1854; idem, Not. Orn. Coll. Delattre, p. 89, 1854—Arica.

¹ Rev. Letr. Cienc. Soc., 3, p. 57, 1905.

Trochilus vesper Philippi (12), p. 250 (crit.); idem, *Ornis*, 4, p. 158—Chiapa, Tarapacá.

Rhodops vesper Albert (1), 100, p. 624—"... la provincia de Aconcagua i ... en la provincia de Valparaiso," errore (part); idem (2), *Rev. Chil. Hist. Nat.*, 2, p. 143—"Aconcagua," errore.

Rhodopsis atacamensis (not of Leybold) E. Reed (4), p. 203—part, Tarapacá.

Range in Chile.—Extreme north, in provinces of Tarapacá and Tacna.

Material collected.—Tarapacá: Pica (alt. 4,000 feet), two ♂♂ ad., two ♀♀ ad., May 17-23, 1924.

Additional specimens.—Tacna: Palca (alt. 3,000 meters), two ♂♂ ad., one ♀ ad., Oct. 10-20, 1902. Otto Garlepp (Coll. Berlepsch and Munich Museum).—"Chile:" ♂ ad., type of the species (Paris Museum).

Birds from the Chilean localities listed above agree precisely with a series from western Peru (Arequipa to Lima). The type of *O. vesper*, in coloration and length of bill, is identical with one of our males from Pica (May 20, 1924). It was received in exchange from F. Prévost in 1827, and bears no other locality than "Chile." As has been pointed out by Simon (*Hist. Nat. Troch.*, p. 394, 1921), there is no foundation for Lesson's statement that it came from near Valparaiso.

R. v. vesper ranges from Tarapacá through western Peru as far north as Lima.¹ Records from central Chile are evidently erroneous. Frauenfeld (p. 637) claims to have seen *T. vesper* on the road from Valparaiso to Santiago, but it will be remembered that the "Novara" Expedition, to which he was attached as naturalist, did not obtain this species. Albert's statement that it sometimes appears in summer in the province of Aconcagua does not deserve more credit either. Philippi (*Anal. Univ. Chile*, 31, p. 250, 1868) emphatically denies its occurrence in the neighborhood of Valparaiso. Its altitudinal area extends from near sea level up to 10,000 feet. Whitley obtained specimens at Islay (near the coast), Arequipa (7,800 feet), and Chihuata (9,000 feet), in Arequipa; Kalinowski at Pauza (7,300 feet), Ayacucho; Sanborn at Pica (4,000 feet), Tarapacá; Otto Garlepp at Palca (alt. 10,000 feet), above Tacna, in the province of the same name.

¹ Simon (l. c., p. 394, note 4) questions its occurrence at Lima, but, according to Berlepsch and Stolzmann (*P. Z. S. Lond.*, 1892, p. 384), it was found by Kalinowski at Chorillos, and Field Museum also has specimens obtained by J. T. Zimmer at Santa Eulalia (alt. 3,500 feet).

150. *Rhodopsis vesper atacamensis* (Leybold)

Trochilus atacamensis Leybold, Anal. Univ. Chile, 32, p. 43, 1869—estate Sápulen, near Copiapó, Chile; idem, Leopoldina, 8, p. 52, 1873—near Copiapó; Philippi, Ornith., 4, p. 158—Copiapó; idem (24), p. 25—Copiapó.

Trochilus vesper (not of Lesson) Landbeck, Zool. Garten, 17, p. 227—"Cop-dapo" = Copiapó.

Rhodopsis atacamensis E. Reed (4), p. 203—part, Atacama and (?) Valparaiso; Dabbene, p. 501—northern Chile (monog.).

Rhodopsis vesper Albert (1), 100, p. 624—Chile (part).

Range.—Only known from the Copiapó Valley and Caldera, Prov. Atacama, northern Chile.

Material collected.—Atacama: Caldera, seven ♂♂ ad., Aug. 20, 22, Sept. 1, 2, 7, 12, 16, 20, 1924. E. Gigoux.

These birds differ from a good series of males of *R. v. vesper* by much shorter and at the same time decidedly slenderer bill. In coloration they appear to agree. The upper tail coverts are mainly cinnamonaceous with half-concealed bronze green central spots, exactly as in typical *vesper*.

R. v. atacamensis appears to have a peculiarly restricted range. It was discovered at Sápulen, near Copiapó, in June, 1867, by Adolfo Paulsen, who sent Dr. Leybold a single male, which subsequently passed with the Gould Collection into the British Museum. Philippi recorded a couple taken at Copiapó in July, and Dr. H. Darnedde (in litt., Feb. 25, 1917), of Hanover (Germany), writes that he received between 1890 and 1907 from his correspondent, Fernando Paulsen (probably a descendant of the original collector), about ten specimens, all shot around Copiapó in July and August. E. Gigoux, to whom Field Museum is indebted for its series,¹ reports that these humming birds appear in the gardens of Caldera in late June or July, and stay until the latter part of September. None are seen during the rest of the year, and it is presumed that they repair to certain mountain valleys in the Cordillera of Atacama.

No representative of this genus has yet been found either in Antofagasta or Coquimbo, and if one really occurs occasionally in the central provinces, as claimed by Albert, it is much more likely to be *R. v. atacamensis* than *R. v. vesper*.

¹It is possibly the present species which is referred to by Gigoux (p. 85) s. n. "*Oreotrochilus leucopleurus*" as a winter visitor at Caldera. He does not mention *R. v. atacamensis* at all.

More information on the distribution and migratory movements of *R. v. atacamensis* is much desired.¹

| Adult males | MEASUREMENTS | | |
|------------------------------------|--------------|---------|-------------------------------|
| | Wing | Tail | Bill |
| <i>R. vesper tertius</i> | | | |
| Twenty-two from Tembladera | 50-52½ | 47-53 | 21-24, twice 25 |
| <i>R. vesper vesper</i> | | | |
| One from Santa Eulalia, Lima | 53 | 53 | 30 |
| One from Pauza, Ayacucho | 58 | 52 | 30 |
| Two from Islay, Arequipa | 56, 57 | 50, 53 | 30, 31 |
| One from Arequipa | 58 | 53½ | 29¾ |
| One from Chihuata, Arequipa | 56 | 51 | 31 |
| One from Palca, Tacna | 56 | 48 | 29 |
| Two from Pica, Tarapacá | 54, 56 | 52, 53 | 28,— |
| One from "Chile" (type of species) | 55 | 51 | 28 |
| <i>R. vesper atacamensis</i> | | | |
| Seven from Caldera, Atacama | 53-55 | 49-51 | 22, 23 (three), 24 (three) |
| Five from Copiapó (fide Darnedde) | 52-53 | 47-50 | 21½-22½ |
| Adult females | | | |
| <i>R. vesper tertius</i> | | | |
| Ten from Tembladera | 50½-53½ | 31½-35 | 22-25 |
| Three from Trujillo | 53½-54½ | 33¾-35 | 25, 26, 26 |
| One from Pacasmayo | 52¾ | 33½ | 25 |
| <i>R. vesper vesper</i> | | | |
| One from Santa Eulalia, Lima | 56 | 37½ | 31 |
| One from Arequipa | 57½ | 36½ | 31½ |
| One from Chihuata, Arequipa | 57 | 36 | 33 |
| One from Palca, Tacna | 55 | 36½ | 29 |
| Two from Pica, Tarapacá | 57, 58 | 41, 41½ | 30,— |
| <i>R. vesper atacamensis</i> | | | |
| One from Copiapó (fide Darnedde) | 52 | 35 | 22½ |

¹Birds collected by O. T. Baron in the arid Tropical zone of northwestern Peru have been referred by Salvin, Hartert, and Simon to *R. v. atacamensis*, as no topotypical Chilean material was available at the time for comparison, the type in the British Museum being in too poor condition to be of any use. Although closely allied to the Atacama form, twenty-two males from northern Peru, when compared with our seven skins from Caldera, nevertheless differ by certain constant characters, and I propose to separate them as

Rhodopsis vesper tertius n. subsp.

Adult.—Similar to *R. v. atacamensis*, but wing very slightly shorter, bill decidedly stronger, and under parts paler, more whitish, only the sides of the chest slightly tinged with grayish. Wing 50-52½, (female) 50½-54½; tail 47-53, (female) 31½-35; bill 21½-25.

Type in Munich Museum, No. 15.510. Adult male. Tembladera, Dept. Cajamarca, Peru, June 6, 1894. O. T. Baron.

Range.—Northern Peru, in Depts. of Libertad (Trujillo, Pacasmayo), Cajamarca (Tembladera), and Piura (Payta), from sea level up to 1,500 feet.

Remarks.—The North Peruvian form, although occupying the northern end of the range, is somewhat intermediate between the two hitherto recognized races. While agreeing with *R. v. atacamensis* in small size and in shortness of bill, it has the bill stronger, about as thick as *R. v. vesper*, and the under parts are whiter than in either of its allies. The coloration of the upper tail coverts, however, does not seem to afford a reliable criterion. Although the majority from North Peru have a greater amount of green spotting, a good many examples are indistinguishable on this score from *R. v. atacamensis*.

151. *Myrtis yarrellii* (Bourcier)

Trochilus yarrellii Bourcier,¹ P. Z. S. Lond., 18, p. 45, 1847—"Montevideo," errore; we substitute Arica, Chile.

Calothorax yarrelli Bonaparte, Compt. Rend. Ac. Sci. Paris, 38, p. 660, 1854; idem, Not. Orn. Coll. Delattre, p. 90, 1854—Cobija, "Bolivia."

Myrtis yarrelli Salvin, Cat. B. Brit. Mus., 16, p. 418, 1892—Arica, "Peru."

Range in Chile.—Coast of Antofagasta (Cobija) and Tacna (Arica).

Material examined.—Tacna: Arica, ♂ ad., ♀ ad. Gould Collection, British Museum.

This species is nearly related to *M. fanny* (Lesson), but has a much slenderer, shorter bill, which is little more than half as long. The three lateral rectrices, in the male sex, are much more attenuated, the first and second especially so, being nearly filiform and only about one-third of the width of the outer web of the corresponding rectrices in *M. fanny*, and of slightly different proportions, the third (from without) instead of the second being the longest. The throat is purplish red, the feathers of the lower portion apically edged with bluish green (in *M. fanny* greenish blue, bordered below by violet). The female may be distinguished, in addition to its much smaller bill, by much narrower (about half as wide) and more pointed lateral rectrices, and less rufescent, more buffy white under parts. As in *M. fanny*, the female has considerably longer wings than the male.

Measurements.—Wing (male) 32, (female) 38; tail (male) 30, (female) 27; bill 12, 12.

M. yarrellii is one of the rarest humming birds in collections. Its range appears to be restricted to the coast of northern Chile.² Adolphe Delattre obtained it at Cobija, and specimens in the British Museum are from Arica. Mr. Sanborn, on June 14, 1924, watched the bird on the plaza of that town, but was unable to shoot it.

[Three other species of humming birds have been credited to Chile. Gay (Hist. fis. pol. Chile, Zool., 1, p. 278, 1847) claims to have dis-

¹Elliot's statement—repeated by Simon—that the type specimen is in the American Museum of Natural History, New York, is erroneous. Bourcier described the species from two examples, male and female, in the Loddiges Collection (London), where they still are. Mr. A. L. Butler kindly examined them for me, and under date of April 6, 1928, reports that they are identical with the Arica birds in the British Museum.

²In southern Peru—sometimes included in its range—it is replaced by *M. fanny*, as is shown by specimens from Islay, Arequipa, collected by H. Whitely, in the British Museum. The record of *M. yarrelli* from Huasampilla (see Whitely, P. Z. S. Lond., 1873, p. 187) clearly refers to *Acestrura mulsanti*.

covered *Trochilus* [= *Lafresnaya*] *gayi* Bourc. in the Cordilleras of Copiapó, Atacama. This is clearly an error, as no representative of this genus is known from anywhere south of central Peru.

Trochilus forficatus (Gay, l. c., p. 274), which Dabbene (Rev. Chil. Hist. Nat., 33, p. 503) identifies with *Eupetomena macroura hirundo* Gould, has no place in the Chilean fauna either. *E. m. hirundo* is restricted to the Amazonian slope of the Andes of southern Peru and northern Bolivia, while the other members of the genus inhabit Brazil and Guiana.

The Sappho Humming bird, *Sappho sappho* (Lesson), has been included by Dabbene (l. c., p. 500) on the basis of some specimens said to have been collected by Leybold in the "Chilian Andes" (cf. Salvin, Cat. B. Brit. Mus., 16, p. 143, 1892), but there is absolutely no proof of their having been taken on Chilean territory, and they are much more likely to have come from the Argentine slope of the Andes in the vicinity of Mendoza, where *S. sappho* is rather common.

Amazilia amazilia dumerilii (Lesson), though originally described from "les provinces septentrionales du Chili," is now known to be confined to the Pacific coast region of Ecuador and extreme north-western Peru.]

152. *Micropus andecolus parvulus* Berlepsch and Stolzmann

Micropus andecolus parvulus Berlepsch and Stolzmann, P. Z. S. Lond., 1892, p. 384, note 1—Ica, western Peru.

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Chacalluta (six miles north of Arica), two ♂♂ ad., one ♀ ad., June 14, July 16, 21.

These birds, which constitute the first record of a swift from Chile, agree in every particular with a series from Arequipa and a single adult female from Matucana, above Lima, in western Peru.

In the light of this material *M. a. parvulus* turns out to be an exceedingly well-marked race, which differs from both *M. a. andecolus*¹ and *M. a. peruvianus*² in having the sides and flanks extensively brownish black, this dusky area being abruptly defined from the pure white middle of the abdomen. Besides, the white nuchal collar runs all around the nape, instead of being broken in the middle

¹*Cypselus andecolus* Lafresnaye and d'Orbigny, Syn. Av., 1, in Mag. Zool., 7, cl. 2, p. 70, 1837—La Paz, Bolivia (type in Paris Museum examined).

²*Micropus peruvianus* Chapman, Proc. Biol. Soc. Wash., 32, p. 253, 1919—Ollantaytambo, Urubamba, Peru (type in American Museum of Natural History examined).

by a dusky brown band connecting the color of the pileum with that of the back; the crown and back are of a darker, more blackish hue; the tertials are more distinctly edged with white at the tip; the post-ocular region is white or but slightly tinged with grayish brown; the under tail coverts are wholly white except for the grayish brown apical half of the longest series. In the short, less deeply forked tail and white (not buffy) rump band, collar, and under parts *M. a. parvulus* closely resembles *M. a. peruvianus*, but lacks the dusky mottling on the throat, while the subocular region is paler, grayish brown rather than sooty, and the feathers of the anterior crown are margined with pale brownish as in typical *M. a. andecolus*. Although the solid blackish area on the sides of the under parts generally serves to distinguish *M. a. parvulus*, I find this character also well pronounced in one specimen (from Tinta) of *M. a. peruvianus*, while certain individuals from Arequipa approach the latter in the mottling of the throat. The tail varies a good deal in shape, yet it must be admitted that it is more deeply forked in *M. a. andecolus* than in the two other races, though the difference is bridged over by individual variation.

There are thus three forms of the Andean Swift, which may be characterized as follows:

(a) *Micropus andecolus andecolus* (Lafr. and d'Orb.).—Nuchal collar interrupted in the middle and, like the uropygial band and the under parts, more or less tinged with buff; the inner sides of breast and abdomen faintly shaded with smoke gray; longest under tail coverts wholly sooty, the median series largely tipped with dusky, the shortest only buffy white; feathers of forehead edged with grayish brown; crown and back less blackish, tail longer, deeply forked.

Range.—Andes of Bolivia (Depts. of La Paz and Cochabamba) and western Argentina (Jujuy to Mendoza).¹

Material examined.—Bolivia: La Paz (the type), 1; Consata, La Paz, 1; Vinto, Cochabamba, 2; Parotani, Cochabamba, 1; unspeci-

¹*M. andecolus dinellii* Hartert (Bull. Brit. Orn. Cl., 23, p. 43, Dec., 1903—Angosta Perchela, Jujuy) is synonymous with *M. a. andecolus*, since Argentine birds are inseparable from those of Bolivia. Inspection of the material in the British Museum discloses the fact that Hartert had mistaken the western form, represented in that collection by six skins from Arequipa and one from Matucana, for typical *andecolus*, and redescribed the latter under a new name. The type in the Paris Museum, being in very poor condition, is almost useless for comparative purposes, but 2 specimen from Consata (in the type region) marked by Hartert himself *M. a. dinellii* shows that La Paz birds are the same as those from other parts of Bolivia.

fied (T. Bridges coll.), 1.—Argentina: Maimara, Jujuy, 1; Amaicha, Tucumán, 1; Cumbre Calchaquies, Tucumán, 1; west of Mendoza, 2.

(b) *Micropus andecolus peruvianus* Chapman.—Nuchal collar incomplete as in *M. a. andecolus*; tail shorter and less deeply forked; margin of the forehead paler hue; uropygial band, sides of neck, and under parts less buffy, sometimes nearly pure white; dusky bases of chin and throat feathers showing through, producing an indistinct mottling; sides of body as a rule slightly tinged with smoke gray, rarely dark sooty; shorter under tail coverts generally with less white.

Range.—Andes of southeastern Peru, in Dept. of Cuzco (Urubamba and Marcapata Valleys).¹

Material examined.—Peru: Ollantaytambo (the type), 1; Huaracando Canyon, Urubamba, 1; Tinta, 2; Quiquijona, Marcapata, 2.

(c) *Micropus andecolus parvulus* Berlepsch and Stolzmann.—Nuchal collar complete and like uropygial band, sides of head, and under parts pure white; sides of breast and abdomen brownish black, forming a sharply defined dusky area; under tail coverts white, only apical portion of longest series grayish brown; crown and back darker, more blackish; forehead edged with hoary brownish; furcation of tail shallow as in *M. a. peruvianus*.

Range.—Andes of western Peru, north to Matucana (above Lima), and extreme northern Chile (Tacna).

Material examined.—Peru: Matucana (Oct. 11, 1884, ♀ ad. Nation), 1; Ica, 1; Arequipa, 6.—Chile: Chacalluta, Tacna, 3.

MEASUREMENTS OF ADULTS

| <i>M. a. andecolus</i> | Wing | Tail | Depth of furca |
|--|----------|--------|----------------|
| One unsexed from La Paz (type) | 141 | 66 | 19 |
| One unsexed from Consata, Bolivia | 135 | 65 | 18 |
| Two males from Vinto, Cochabamba | 141, 144 | 70, 72 | 19, 22 |
| One male from Parotani, Cochabamba | 142 | 65 | 18 |
| One unsexed from Bolivia (T. Bridges) | 144 | 71 | 22 |
| Two males from Tucumán | 137, 144 | 67, 72 | 22, 22 |
| One male from Jujuy | 146 | 71 | 16 |
| Two females from Mendoza | 138, 140 | 65, 66 | 20,— |
| <i>M. a. peruvianus</i> | | | |
| One female from Ollantaytambo, Urubamba (type) | 139 | 53 | 14 |
| One male from Huaracando | 135 | 60 | 13 |
| One male from Tinta | 144 | 63 | 15 |
| One female from Tinta | 143 | 62 | 14 |
| One male from Quiquijona, Marcapata | 144 | 63 | 13 |
| One female from Quiquijona | 136½ | 60 | 13 |

¹An adult bird in the British Museum, said to be from "Quito," also belongs to *M. a. peruvianus*. The locality is doubtless erroneous.

| <i>M. a. parvulus</i> | Wing | Tail | Depth of furca |
|-----------------------------------|--------------|------------|-------------------|
| One female from Matucana | 143 | 64 | 18 |
| One female from Ica | 135 | 57 | 14 |
| Two males from Arequipa | 137, -- | 63, 64 | 14, 15 |
| Three females from Arequipa | 135, 140, -- | 58, 59, 60 | 14, 15, 15 |
| Two males from Chacalluta, Tacna | 136, 137 | 57, 59 | 14, 17 |
| One female from Chacalluta, Tacna | 142 | 61 | 18 |

153. *Systellura longirostris*¹ *bifasciata* (Gould)

Caprimulgus bifasciatus Gould, P. Z. S. Lond., 5, p. 22, Nov., 1837—"from Mr. Darwin's collection," no locality specified; Darwin, p. 36—type stated to be from Valparaíso; Bridges, p. 94—Colchagua; Fraser (1), p. 110—east and west sides of the Andes of Chile; Des Murs (2), p. 261—central provinces; Koenig-Warthaussen, Journ. Orn., 16, p. 382, 1868—Santiago (eggs descr.); Philippi (12), p. 248—Chile; Waugh and Lataste (2), p. CLXX—San Alfonso, Quillota; idem (3), p. LIX—Peñaflor, Santiago; Albert (1), 101, p. 499—Chile (crit.); idem, Rev. Chil. Hist. Nat., 3, p. 25, 1899—Chile (crit.); Lataste (9), p. 167—Peumo.

Caprimulgus conterminus Peale, U. S. Expl. Exp., 8, p. 169, 1848—Valparaíso.

Stenopsis parvulus (not *Caprimulgus parvulus* Gould) Cassin, p. 186—Chile, near the foot of the mountains; Germain, p. 309—Santiago (nesting habits).

Stenopsis bifasciata Sclater (2), 1867, pp. 323, 338—Chile (crit.); E. Reed (2), p. 554—Cauquenes (Colchagua) and Valparaíso; Sharpe, p. 9—Coquimbo.

Caprimulgus andinus Philippi and Landbeck, Arch. Naturg., 26, (1), p. 279, 1860—Cordillera of Santiago (=juv.); idem, Anal. Univ. Chile, 18, p. 31, 1861; Philippi (12), p. 248—central provinces; idem (24), p. 18, pl. 12, figs. 5, 6.

Caprimulgus obscurus (Philippi MS.) Albert, Anal. Univ. Chile, 101, p. 502, 1898—Chile; Philippi, Anal. Mus. Nac. Chile, 15, p. 20, pll. 11, 12, fig. 4, 1902—Concepción.

Caprimulgus bifasciatus var. *gularis* Philippi, Anal. Mus. Nac. Chile, 15, p. 21, pl. 12, fig. 3, 1902—Chile.

Stenopsis longirostris (not *Caprimulgus longirostris* Bonaparte) E. Reed (4), p. 203—Chile; C. Reed (1), Aves Prov. Concepción, p. 38—Concepción; Barros (4), p. 141—Nilahue, Curicó; idem (5), p. 177—Cordillera of Aconcagua; Passler (3), p. 451—Coronel (egg descr.); Housse (1), p. 48—Isle La Mocha; idem (2), p. 143—San Bernardo, Santiago; C. Reed (4), p. 189, 1925—Cautín; Jaffuel and Pirion, p. 105—Marga-Marga Valley, Valparaíso; Bullock (4), p. 174—Angol, Malleco.

Stenopsis exilis (not *Caprimulgus exilis* Lesson) Housse (2), p. 143—San Bernardo, Santiago.

¹Whatever *Caprimulgus longirostris* Bonaparte (Journ. Ac. Nat. Sci. Phila., 4, p. 384, 1825) may ultimately turn out to be, the Chilean Goatsucker seems to be different from the Argentine birds designated by authors under that name. Specimens from Buenos Aires and Tucumán, when compared with others from Chile, are much more spotted with rufous above, and have the under parts less rufescent as well as more narrowly barred with dusky.

Systellura longirostris Chapman, Amer. Mus. Nov., 67, p. 2, 1923—Temuco and Tofo.

Range in Chile.—From Coquimbo (Tofo) to the Guaitecas Islands.

Material collected.—Coquimbo: Tambillos, ♂ ad., ♂ imm., July 8; Paiguano (alt. 3,300 feet), ♂ ad., June 26. —Colchagua: Baños de Cauquenes, ♂ ad., May 4.—Concepción: Hacienda Gualpencillo, ♀ ad., April 5.—Cautin: Chapod, Temuco, ♀ ad., April 19, 1910. A. C. Saldaña.—Guaitecas Islands: Melinka, Ascension Island, ♀ ad., Jan. 30.

Additional specimens.—Coquimbo: Coquimbo, ♂ imm., ♀ ad., June. Coppinger.—Santiago: Santiago, one ♂ ad., one ♂ imm. (type of *C. andinus*, June, 1864), two ♀ ♀ ad. F. Leybold and L. Landbeck.—Valparaiso: Valparaiso, ♂ ad. C. Darwin (type of *C. bifasciatus*).—Cautin: Maquehue, Temuco, ♀ ad., Sept. 28, 1904; Pitrufulquen, Temuco, ♀ ad., June 18, 1906. D. S. Bullock (all in the British Museum).

The available material is insufficient to make out whether there is any racial variation in this goatsucker. The three specimens in Field Museum from Concepción, Temuco, and Melinka are somewhat darker above and more rufescent on the under parts than those from farther north; but two Temuco birds in the British Museum hardly differ from the latter by very slightly darker dorsal surface, while underneath one is just as pale as others from Coquimbo. *C. obscurus*, based on a single immature from Concepción and first introduced into literature by Albert, will eventually come into use, if southern birds prove to be separable.

C. andinus was founded on a male molting from the juvenile into the first annual plumage. The extent of the white apical spots on the lateral rectrices, upon which Philippi lays so much stress, varies considerably in the male sex, it being much more restricted in immature individuals. The female has no white in the tail. The wing-band and the light collar across the foreneck are pure white in adult males, whereas in immature males the former is white more or less tinged with ochraceous tawny, in females deep tawny; the collar is buff, more deeply so in females.

The "Plastilla" is generally distributed throughout central and southern Chile, its vertical range extending from the plains up to about 7,000 feet. The most northerly locality on record is Tofo, north of Coquimbo, whence Chapman lists a single female secured by Hallinan. According to Germain, it lays in November two eggs,

which it deposits on the ground, choosing for that purpose solitary and waste places covered with scanty vegetation.

154. *Systellura longirostris atripunctata* Chapman

Systellura ruficervix atripunctata Chapman, Amer. Mus. Novit., 67, p. 2, 1923—Acobamba, Junín, Peru.

Stenopsis longirostris (not *Caprimulgus longirostris* Bonaparte) Lane, Ibis, 1897, p. 47—San Pablo, Tarapacá.

Range in Chile.—Northern provinces of Antofagasta and Tarapacá.

Material collected.—Antofagasta: Rio Loa (alt. 7,500 feet), ♂ ad., Sept. 13.

On the upper parts, this bird is practically identical with a male from Matucana, above Lima, Peru. Both have the lateral portion of the pileum hoary gray, variegated with black, and the center largely black spotted with ochraceous tawny, and also resemble each other in having on the back and scapulars rounded ochraceous spots with black centers. The Rio Loa specimen, while more distinctly barred with blackish on the belly, can be matched in that respect by other Peruvian examples.

S. l. atripunctata differs from the Chilean *S. l. bifasciata* by much wider, deeper rufous nuchal collar, the presence of ochraceous-tawny spots on the black middle crown, and more numerous as well as differently shaped ochraceous markings on the back and scapulars. It forms, in fact, the transition from *bifasciata* to *ruficervix*, and consequently all the goatsuckers of this group should be treated as races of *S. longirostris*.

S. l. atripunctata evidently ranges all over the Andes of Peru and Bolivia, and stretches south into the north of Chile. We have examined specimens from Cajamarca (♂ ad., juv.), Cajabamba (♂ ad., ♀ ad.), near Otuzco (♂ ad.), Arequipa (♂ imm., ♀ ad.), Matucana (♂ ad.), Peru, and Tilotilo (♂ ad.) and Challapata (♂ imm.), Bolivia.

On the arid coast of Peru, from Islay north to Trujillo, it is replaced by the much smaller and paler *S. l. decussata* (Tschudi), of which *Stenopsis macrorrhyncha* Salvadori¹ is clearly a synonym.

[*Caprimulgus exilis* Lesson (Rev. Zool., 2, p. 44, 1839), described from "Chile," was included on this authority by Gay (Hist. fís.

¹Atti Soc. Ital. Sci. Nat., 11, p. 447, 1868—"America meridionale."

pol. Chile, Zool., 1, p. 262, 1847). Lesson himself (Oeuvr. compl. Buffon, éd. Lévêque, 20, p. 258, 1844), however, had corrected the original locality to Callao, Peru. This detailed description leaves no doubt that it is an earlier name for *C. pruinus* Tschudi, and this nighthawk should, accordingly, be called *Chordeiles acutipennis exilis* (Lesson). It is only known from the littoral of Peru and has never been found in Chile, although Gigoux (a, p. 40) claims its occurrence in Atacama.]

155. *Colaptes pitius pitius* (Molina)

Picus pitius Molina, Saggio Stor. Nat. Chile, pp. 236, 343, 1782—Chile (descr. pessima).

Picus chilensis Lesson, Voy. Coquille, Zool., 1, (1), livr. 3, pl. 32, April, 1827—"Concepcion, au Chile."

Colaptes chilensis Vigors, Zool. Beechey's Voy., p. 24, 1839—Concepción; Darwin, p. 114—central Chile, on the western side of the Cordillera; Bridges, p. 94—Colchagua; Pelzeln (2), p. 101—Chile.

Colaptes pitiguus Fraser (1), p. 114—southern provinces of Chile; Des Murs (2), p. 373—central and southern Chile; Philippi (12), p. 267—Chile; Albert (1), 100, p. 319—range; Lataste (1), p. CXV—Bureo (Chillan), Ñuble; idem (5), p. LXII—Llhué (Itata), Maule.

Colaptes pitius Hartlaub (3), p. 215—Valdivia; Cassin, p. 190—southern Chile; Scater (2), 1867, pp. 328, 338—Chile; Scater and Salvin, Ibis, 1869, p. 283—"Lata" [=Lota], Concepción; idem, Ibis, 1870, p. 499—Ancud, Chiloé; E. Reed (2), p. 555—Cauquenes, Colchagua; idem (4), p. 204—Chile; Lane, p. 47—Arauco, Valdivia (Calle-Calle, Corral), Puerto Montt, Chiloé; Schalow (2), p. 703—Quiriquina Island (Bay of Talcaguano) and Tumbes, Concepción; C. Reed, Av. Prov. Concepción, p. 21—Cabrero and Cerros de Quilacoya, Concepción; Barros (4), p. 142—Ñilhue, Curicó; idem (5), p. 178—Cordillera of Aconcagua; Pássler (3), p. 451—Coronel; C. Reed (4), p. 56—Ilualqui, Concepción (food); Bullock (3), p. 122—Cerro de Nahuelbuta, Malleco; idem (4), p. 173—Angol, Malleco.

Polaptes Citiguus (sic) Boeck, p. 508—Valdivia.

Colaptes pitius pitius Wetmore (3), p. 224—Concon, Valparaíso.

Colaptes pitius Jaffuel and Pirion, p. 111—Marga-Marga, Valparaíso.

Range in Chile.—Central and southern provinces, from Aconcagua to the Guaitecas Islands.

Material collected.—O'Higgins: Rancagua, ♂ ad., Dec., 1903. C. S. Reed.—Malleco: Curacautin, ♀ ad., Jan. 12.—Valdivia: Máfil, ♂ (molting), two ♂♂ juv., Feb. 16, 18, 24.—Chiloé Island: Quellon, ♀ ad., ♂ juv., Dec. 22, 27.—Guaitecas Islands: Melinka, Ascension Island, ♀ ad., Feb. 1.

Birds from Chiloé and the Guaitecas have the black bars on the chest and sides somewhat wider, but in length of bill (37–38 mm.)

they agree with more northern examples, and I do not see my way clear to separate them from typical *piti*us. Two adults from Lago Nahuel Huapi, Neuquen, differ by slightly shorter bills (34–35 mm.) and the greater amount of blackish barring underneath, which leaves hardly a trace of the plain (unmarked) area in the middle of the abdomen. However, they are closely approached in that respect by the Melinka bird, and it is possible that the receipt of further material from Argentina may show *C. piti*us *cachinnans* Wetmore and Peters¹ to be not properly separable.

*C. p. piti*us is particularly common in the southern parts of Chile from Concepción onwards. Farther north it decreases in numbers, and its range apparently does not extend into Coquimbo, the most northerly locality on record being Aconcagua. It is reported to prefer valleys and hill slopes up to about 6,500 feet, but is not found in the higher parts of the Cordilleras.

156. *Colaptes rupicola rupicola* d'Orbigny

Colaptes rupicola d'Orbigny, Voy. Amér. Mérid., Ois., pl. 62, fig. 1, pub. before 1844;² idem, p. 377, 1847—Bolivia (type from Sicasica; see Ménégau, Bull. Soc. Philom. Paris, (10), 1, pp. 207–208, 1909); Sclater (6), 1891, p. 135—Yrpa, near "Uzilugo" [= Vilugo], Tarapacá; E. Reed (4), p. 204—Chile; Lane, p. 47—Tarapacá.

Range in Chile.—Extreme northern section, in province of Tarapacá.³

Material examined.—Tarapacá: Yrpa (near Vilugo), ♀ ad., April 11, 1890. A. Lane (British Museum).

This specimen, without any trace of red on the nape, agrees in every respect with Bolivian females.

Ambrose Lane, the only naturalist who ever obtained it in Chile, tells us that this woodpecker is occasionally met with on the eastern side of the Cordillera of Tarapacá up to 10,000 feet, but he is not quite certain whether it is a permanent resident or merely a visitor from Bolivia.

¹Proc. Biol. Soc. Wash., 35, p. 43, 1922—Bariloche, Lago Nahuel Huapi, Rio Negro.

²Although the letterpress of *C. rupicola* was not published until 1847 (see Sherborn, Ind. Anim., Sect. 2, Part 1, p. XCVII, 1922), plate 62 must have been issued far in advance, since it is quoted as early as 1844 by Tschudi (Arch. Naturg., 10, (1), p. 303) with the remark "sine descriptione."

³The "Valparaíso" specimen recorded by Allen (p. 101) is doubtless incorrectly labeled and probably originated from Bolivia.

The general range of *C. r. rupicola* comprises the Andean districts of Bolivia and northwestern Argentina. In southern Peru it is replaced by *C. rupicola puna* Cabanis.¹

157. *Ipocrantor magellanicus* (King)

Picus magellanicus King, Zool. Journ., 3, No. 11, "Sept. to Dec. 1827," p. 430, pub. early in 1828—Port Famine, Straits of Magellan; Des Murs (2), p. 372—southern Chile, north to Colchagua; Boeck, p. 507—near Valdivia; Philippi (12), p. 267—from Magellania to Colchagua.

Picus jubatus Lafresnaye, Rev. Zool., 4, p. 242, 1841—no locality stated (=female).

Picus magellicanus (sic) Bridges, p. 94—Colchagua.

Campephilus magellanicus Sclater (2), 1867, pp. 328, 338—Chile; Sclater and Salvin, Ibis, 1868, p. 187—Sandy-Point; idem, P. Z. S. Lond., 1878, p. 434—Puerto Bueno; E. Reed (2), p. 555—Cauquenes, Colchagua; Ridgway (2), p. 135—Laredo Bay and Sandy-Point.

Ipocrantor magellanicus E. Reed (4), p. 204—from Chillan to Magellania; Lane, p. 48—Valdivia (habits); Bullock (4), p. 173—Angol, Malleco.

Range in Chile.—From the Straits of Magellan north to Colchagua.

Material collected.—Malleco: Rio Colorado, ♂ ad., Feb. 4.—Valdivia: Ríñihue, ♂ ad., March 7; Máfil, ♀ ad., Feb. 27.—Chiloé Island: Quellon, ♂ imm., ♀ ad., Dec. 22, 23; Rio Inio, ♀ ad., Jan. 12.

The majority of our specimens have the inner web of the secondaries (excepting the tip) uniform white, but an immature male and one of the females show a few blackish spots in the apical portion of this light-colored area.

The Chilean series appears to be inseparable from the few Patagonian specimens with which we have been able to compare them.

This woodpecker, characterized by the peculiar sexual dimorphism in the development of the crest carried much farther in the female, is evidently of Patagonian origin. It inhabits Tierra del Fuego and southern Patagonia, ranging along the eastern slope of the Andes as far north as the vicinity of Lake Nahuel Huapi. In Chile it is fairly common up to Valdivia, but north of this point it decreases in numbers, and reaches the limit of its range in Colchagua, where it is stated to be rather rare.

¹Philippi (Ornis, 4, p. 159, 1888) lists "*Picus cactorum* Tsch." from Cana, Antofagasta. If this is intended for *Trichopicus cactorum* (d'Orbigny), the identification can hardly be correct. Albert (Anal. Univ. Chile, 100, pp. 315-325, 1898), who had access to the collections of the Museo Nacional, does not mention the species even in synonymy. *Colaptes rupicola* is admitted to the Chilean fauna solely on Sclater's authority.

158. *Dyctiopicus lignarius* (Molina)

Picus lignarius Molina, Saggio Stor. Nat. Chile, pp. 236, 343, 1782—Chile (descr. pessima); Fraser (1), p. 114—Chile; Cassin, p. 190—mountainous districts [of Chile]; Germain, p. 312—Santiago (nesting habits); Pelzeln (2), p. 101; Sclater (2), 1867, pp. 328, 338—Chile; Sclater and Salvin, Ibis, 1869, p. 283—Chiloé; E. Reed (2), p. 555—Cauquenes, Colchagua; Salvin (2), p. 425—Coquimbo; Jaffuel and Pirion, p. 111—Marga-Marga Valley, Valparaíso.

Picus melanocephalus King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, p. 14, Jan., 1831—"in fretu Magellanico et insula Chiloé"; Des Murs (2), p. 372—Chiloé Island and peninsula of Tres Montes; Boeck, p. 507—Valdivia; Philippi (12), p. 267—Chile generally; Lataste (5), p. LXII—Llohué (Itata), Maule; Waugh and Lataste (1), p. LXXXVII—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso (Quillota), Valparaíso.

*Picus kingii*¹ (Gray MS.) Darwin, Zool. Beagle, 3, Birds, Part 15, p. 113, March, 1841—Valparaíso and peninsula of Tres Montes.

Picus kaupii Hartlaub, Rev. Mag. Zool., (2), 4, p. 6, 1852—"Chile" (types in Bremen Museum); idem (3), p. 215—Valdivia (crit.).

Centurus gradatus Reichenbach, Handb. Spez. Orn., Picinae, p. 411, pl. DCLXV, figs. 4417–18, 1854—Chile (ex Lichtenstein, Nomencl. Av. Mus. Berol., p. 75, 1854; nomen nudum).

Picus puncticeps et *P. aureocapillus*² (not of Vigors) Lataste (1), p. CXV—Cerro de Coronei, Maule.

Dendrocopus lignarius E. Reed (4), p. 204—Chile; Lane, p. 48—Hacienda Mansel (Santiago), Coronel (Concepción), Laraquete (Arauco), and Rio Bueno (Valdivia); Schalow (2), p. 702—La Serena, Coquimbo; Bullock (3), p. 122—Cerro de Nahuelbuta, Malleco; idem (4), p. 173—Angol, Malleco.

Dryobates lignarius Barros (4), p. 142—Nilahue, Curicó; idem (5), p. 179—Cordillera of Aconcagua (up to 1,800 meters elev.); Pássler (3), p. 451—Coronel.

Dyctiopicus lignarius Wetmore (3), p. 213—Concon, Valparaíso.

Range in Chile.—From Coquimbo to peninsula of Tres Montes, and sparingly even to the Straits of Magellan.³

Material collected.—Valparaíso: Olmué, ♂ ad., May 23.—Colchagua: Baños de Cauquenes, ♂ ad., May 3.—Malleco: Rio Colorado, ♂ ad., ♀ ad., Feb. 6, March 3; Curacautin, ♀ ad., Feb. 1.—

¹ Proposed as a substitute name for *Picus melanocephalus* King.

² In a subsequent communication (Act. Soc. Sci. Chili, 4, p. CLXXII, 1894) Lataste identified the two birds as male and female of *P. melanocephalus*.

³ Oustalet (Miss. Sci. Cap Horn, 6, Ois., p. 255, 1891) questions its occurrence in the Straits. Even if we discard King's locality "in fretu Magellanico" as too indefinite, there are two other records which seem to indicate that the species is found, at least occasionally, in southern Patagonia. Cunningham (Not. Nat. Hist. Strait of Magellan, p. 138, 1871) shot a specimen at Sandy-Point [= Punta Arenas], and Ridgway (Proc. U. S. Nat. Mus., 12, "1889," p. 135, Feb., 1890) lists another obtained by the naturalists of the "Albatross" at Laredo Bay.

Cautin: Villa Portales (alt. 3,300 feet), ♂ ad., Feb. 29.—Guaitecas Islands: Clotilde Island, ♂ ad., Feb. 3, 1923.

Additional specimens.—Valdivia: Valdivia, two ♂♂ ad., one ♂ imm., three ♀♀ ad. A. von Lossberg, 1897 (Berlepsch Collection, Frankfort Museum).—"Southern Chile:" three ♂♂ ad. (Berlepsch Collection, Frankfort Museum).—"Chile" (unspecified): three ♂♂ ad., one ♀ ad. (Boucard Collection, Paris Museum).

It is possible that specimens from Valdivia and south are more heavily streaked underneath, and the Guaitecas bird, besides having a stronger bill, certainly is more coarsely marked than any other example seen by me. However, the series from central Chile, which shows some variation in this respect, is too inadequate to justify any subdivision.

Although widely distributed over the wooded parts of central and southern Chile, this woodpecker is stated to be nowhere common. Its altitudinal range extends, according to Barros, up to about 6,000 feet.

Outside of Chile, it has been met with along the eastern slope of the Andes, on Argentine territory in Neuquen, Rio Negro, and Chubut. Hargitt¹ records specimens even from Cosquin, Cordoba. It apparently also ranges into certain parts of Bolivia (Cochabamba; Rio Chaluani, Mizque), whence d'Orbigny redescribed it as *Picus puncticeps*. The types, which I have carefully compared in the Paris Museum, appear to me inseparable from Chilean birds; still the examination of a series of Bolivian skins is required to make sure of their identity.

The relationship of the present species to *D. mixtus*² likewise needs further investigation.

[*Picus aurocapillus* Vigors (Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 2, p. 4, 1832), said to be from "Chile," has never been identified. No woodpecker with golden yellow markings on the pileum has ever been found in Chile, and the locality, like that of several other species in Cuming's collection of which it formed part, was doubtless incorrect.

Capito aurifrons Vigors (Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 2, p. 3, 1832) was erroneously described from "Chile." No

¹Cat. B. Brit. Mus., 18, p. 258, 1890.

²Neither *Dyctiopicus mixtus mixtus* (Boddaert) nor *Chrysophilus cristatus melanolaemus* (Malherbe), which are listed by Gigoux (a, pp. 38, 39) among the birds of Atacama, has ever been found on Chilean territory.

member of the Barbet family is found on the Pacific side of South America south of Ecuador, all the species being peculiar to the tropical forests.]

159. *Crotophaga sulcirostris sulcirostris* Swainson

Crotophaga sulcirostris Swainson, Philos. Journ., (n. s.), 1, p. 440, 1827—Mexico

Crotophaga major (not of Gmelin) Philippi, Ornith., 4, p. 159, 1888—Tarapacá.

Range in Chile.—Extreme northern section of Tarapacá and doubtless also Tacna.

Material collected.—Tarapacá: Chintaguai, Quebrada de Quisma (alt. 4,000 feet), ♂ ad., May 22, 1924.

This seems to be the first record of *C. s. sulcirostris* from Chile, but there can be little doubt that Philippi's "*C. major*" from Tarapacá also belongs here and not to *C. major*.

The specimen is similar to others from the coast of Peru (Chosica, Menocucho), which, in agreement with Chapman,¹ I consider inseparable from Central American birds.

[*Guira guira* (Gmelin), mentioned by Gigoux (a, p. 49) as a possible visitor, has never been found in Chile. The two specimens in the British Museum are no doubt incorrectly labeled.]

160. *Megaceryle torquata stellata* (Meyen)

Alcedo stellata Meyen, Nov. Act. Acad. Leop.-Carol. Nat. Cur., 16, Suppl., 1, p. 98, pl. 14, 1834—on the banks of the Rio "Clado" [= Claro], Prov. San Fernando [= Colchagua].

Alcedo stellaris (lapsu) Kittlitz (3), p. 120—San-Tomé, Concepción.

Alcedo torquata (not of Linnaeus) Bridges, p. 94—Chile; Des Murs (2), p. 270; Boeck, p. 498—on the banks of the Calle-Calle River, Valdivia; Philippi (12), p. 249—Chile, much more common in the south.

Ceryle torquata Darwin, p. 42—southern part of Chile, Chiloé, Chonos Archipelago, and down to Tierra del Fuego; Fraser (1), p. 110—southern Chile; Pelzel (2), p. 50.

Ceryle stellata Hartlaub (3), p. 210—Valdivia (crit.); Sclater (2), 1867, pp. 327, 338—Chile (crit.); Sclater and Salvin, Ibis, 1869, p. 283—Port Otway; E. Reed (2), p. 555—Cauquenes, Colchagua (rare); Sclater and Salvin (3), p. 434—Port Otway; Ridgway (2), p. 186—Port Otway; E. Reed (4), p. 204—common in southern Chile, rare along the Rio Cachapoal, Colchagua; Lane, p. 49—Valdivia, not beyond Arauco; C. Reed, Av. Prov. Concepción, p. 39—Concepción; Nicoll, Ibis, 1904, p. 46—Smyth's Channel.

Ceryle torquata stellata Schallow (2), p. 702—Villarrica and Concepción.

¹Bull. Amer. Mus. N. H., 55, p. 341, 1926.

Range in Chile.—Southern provinces, north to Concepción, very rarely as far north as Colchagua.

Material collected.—Chiloé Island: Rio Inio, ♂ ad., ♀ ad., Jan. 8, 1923.

Five additional specimens from Chile (locality not specified) and a series from the Straits of Magellan have been examined in the collection of the British Museum and at Paris.

While admitting that in the range of *M. t. torquata* occasionally specimens may occur that are not distinguishable by color characters, I think there can be no doubt that the white spotting on the wings and upper tail coverts as well as the plumbeous barring on the crissum are perfectly constant features in the South Chilean race. Besides, *M. t. stellata* may be separated by its shorter bill, which rarely exceeds 70 mm. in length, and the duller, more slaty (less bluish) gray of the upper parts. Among twenty examples of this form, I found only one or two in which the white spotting of the wings showed a tendency to reduction, and none without plumbeous barring on the lower tail coverts.

The distributional area of *M. t. stellata* is evidently restricted to Tierra del Fuego, the Straits of Magellan, and southern Patagonia, north to Chubut. In Chile, this kingfisher is fairly common through the southern parts as far north as Concepción, and it is doubtful whether it breeds anywhere beyond that point. There are, however, two records from Colchagua, perhaps based on migratory individuals from the south. Meyen claims to have shot the type on the banks of the Rio "Clado" [= Claro], in the province of San Fernando (nowadays Colchagua), and Edwyn Reed lists it as rare among the birds found in the Hacienda de Cauquenes. No kingfisher occurs in the central and northern parts of Chile.

Peru and Bolivia¹ are erroneously included by authors in the range of the present form. Laubmann² identifies a single male from Villa Montes, Tarija, Bolivia, as *M. t. stellata*, though the bill-measurement (83 mm.) alone tends to show that it does not belong to that race, whose reappearance in Bolivia, furthermore, is more than unlikely. A series from the vicinity of Tucumán in Field Museum is unquestionably referable to *M. t. torquata*.

¹Allen (Bull. Amer. Mus. N. H., 2, p. 101, 1889), in recording *Ceryle stellata* from Reyes and Lower Beni, plains of northern Bolivia, was doubtless misled by wrongly labeled Chilean specimens.

²Verh. Orn. Ges. Bay., 18, p. 219, 1929.

161. *Cyanoliseus patagonus byroni* (J. E. Gray)

Psittacus (Aratinga) byroni J. E. Gray, Zool. Misc., 1, p. 12, 1831—Chile.

Psittacara patagonica (not *Psittacus patagonus* Vieillot) Lesson, Voy. Coquille, Zool., 1, pp. 241, 625, pl. 35 bis—very common around "Talcaguana," Concepción.

*Psittacus cyanolyseos*¹ Poeppig (2), p. 280—Rio Colorado, Santiago; idem (3), p. 8—Los Loros and Puente de Vizcachas, Andes of Santa Rosa [=Los Andes], Aconcagua; idem (4), Reise, p. 451—Andes of Antuco, Biobio; idem (5), p. 87—Antuco (habits); idem (6), p. 24—Antuco (habits); Thienemann, Einhund. Taf. Col. Abb. Vogelei., livr. 2, p. 77, pl. 14, fig. 15 (egg), 1846—Chile.

Conurus patachonicus Darwin, p. 113—part, Concepción, Chile.

*Conurus cyanolysios*² Fraser (1), p. 114—Chile (nesting habits); Des Murs (2), p. 367—Chile (habits); Cassin, p. 189—central provinces; Boeck, p. 506—Valdivia; Pelzeln (2), p. 98—Chile; Sclater (2), 1867, pp. 328, 338; Philippi (12), p. 266—from the Rio Tolten northwards (crit.); Landbeck (6), p. 517—Chile (crit.); idem (7), p. 114—Chile (crit.); idem (9), p. 261—from the Rio Tolten, Arauco, northwards; E. Reed (2), p. 556—Rio Cachapoal, Colchagua.

Conurus byroni Albert, Rev. Chil. Hist. Nat., 2, p. 40, 1898—central and southern Chile (crit.); Lanc, p. 50—inland of San Antonio, Santiago; C. Reed, Av. Prov. Concepción, p. 39—Concepción; Barros (9a), p. 41—Rancagua, O'Higgins.

Cyanolysens (sic) *patagonus* Barros (4), p. 140—formerly in Nilahue, Curicó.

Cyanolyseus byroni E. Reed (4), p. 204—central and southern Chile; Barros (5), p. 177—Prov. Aconcagua (extinct).

Range in Chile.—Formerly common from Aconcagua to Valdivia; at present only in a few spots in the Cordilleras of the central provinces.

Material examined.—Colchagua: Hacienda de Cauquenes, ♀ ad., Dec., 1903. C. S. Reed (Tring Museum).—Concepción: Lirquen (Penco), ♂ ad., June, 1905. C. S. Reed (Tring Museum).—"Chile" (unspecified): one "♂" ad., two unsexed adults, including the type (British, Tring and Munich Museums).

The Chilean "Loro," though nearly allied to, may be distinguished from, *C. p. patagonus* (Vieill.) by somewhat larger size (wing 250–263, against 235–247 mm.), both heavier and longer bill, and by the creamy white patches on the sides of the chest being extended toward the middle so as to suggest or even actually form a complete

¹It is quite possible, as has been intimated by Barros (Rev. Chil. Hist. Nat., 24, p. 151), that Molina (Saggio Stor. Nat. Chile, pp. 256, 343, 1782), when naming *Psittacus cyanolysios*, had the present species in mind. His description, however, is so faulty that I hesitate to accept the name in place of Gray's term, which is of unquestionable pertinence.

²Various spelt *cyanolysios*, *cyanalysios*, *cyanolisios*, or *cyanolyseos*.

transverse band across the breast. *C. p. byroni* apparently never occurred outside of Chile.¹

In southern Argentina, north at least to Buenos Aires and Lake Nahuel Huapi,² it is represented by the small-billed *C. p. patagonus*, while the northwestern provinces (Catamarca, Tucumán, Salta) are tenanted by *C. p. andinus* Dabb. and Lillo,³ which agrees with the typical form in dimensions and size of bill, but differs by much darker brown throat and breast without trace of the creamy white patch on the sides of the chest, duller, more greenish (instead of bright yellow) rump, and by lacking the bright yellow ventral area. We have examined specimens of this well-characterized race from Guapichas (Salta) and Valle del Rio Santa Maria, Tucumán, in the collection of the Munich Museum. Of *C. p. patagonus* specimens have been available from Chubut, Bahia Blanca (Buenos Aires), Roca (Rio Negro), and Casa de Lata (Neuquen).

C. p. byroni used to be very common in Chile. According to Lesson and Darwin, it was abundant around the Bay of Concepción at the time of their visits. Poeppig, in 1829, found it breeding in large numbers near Los Andes, Aconcagua, where, as we are told by Barros, it became extinct some thirty years ago. Boeck, writing in 1855, reports to have seen large flocks of this paroquet in the vicinity of Valdivia, and Gilliss, leader of the United States Astronomical Expedition during the years 1849-52, calls it one of the most numerous of all birds in the central provinces of Chile. In 1875-76, the elder Reed states that many paroquets were nesting in the ravines of the Rio Cachapoal, Colchagua.

Ambrose Lane, at the beginning of December, 1889, observed a large flock about ten miles inland of San Antonio, Santiago. From the valley of Nilahue, Curicó, the "Loro" disappeared, according to Barros, some forty years ago, and its old breeding grounds at Caillihue, near Vichuquen, in the same province, were found deserted by Lataste, when visiting the place in December, 1894. As shown by the specimens in the Tring Museum, it still existed at Cauquenes and Concepción as late as 1902 and 1905. Since that time, its extermination appears to have made rapid progress, and not a single

¹A specimen in the Tring Museum from "Mendoza" (Weisshaupt) is doubtless incorrectly labeled.

²The bird from Sandy-Point, Straits of Magellan, listed by Sclater and Salvin (Ibis, 1868, p. 187) as *Conurus cyanolyseus* can hardly belong to that species. Perhaps this record refers to *Microsittace f. ferruginea*.

³*Cyanolyseus andinus* Dabbene and Lillo, Anal. Mus. Nac. Hist. Nat. Buenos Aires, 24, p. 188, pl. 10, 1913—Colalao del Valle, Tucumán.

bird was seen in a wild state by the members of the Field Museum Expedition. Mr. Sanborn, however, saw at Vallenar, southern Atacama, a live specimen, of which photographs have been taken, and was told that a small breeding colony survived in the cliffs near Domeyko, south of Vallenar. Barros thinks that the "Loro" may still exist in small numbers in the Cordilleras near Rancagua, O'Higgins. The ruthless persecution by the plantation owners and the destruction of the young birds used for food are no doubt responsible for the disappearance of this fine paroquet, and unless serious protective measures are taken, we may soon have to include it in the ever growing list of extinct species.

162. *Enicognathus leptorhynchus* (King)¹

Psittacara leptorhyncha King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, "1830-31," p. 14, Jan. 6, 1831—Chiloé Island; Cassin, p. 189—"interior of Chile."

(?) *Psittacus Jaquilma* (not of Molina?) Poeppig (2), p. 280—Rio Colorado, Santiago.

Psittacara rectirostris Meyen, Nov. Act. Ac. Leop.-Carol. Nat. Cur., 16, Suppl., 1, p. 95, pl. 25, 1834—Chile.

Psittacara cheroyeus Fraser (1), p. 114—Prov. Colchagua.

Ara erythrofrons Lesson, Rev. Zool., 5, p. 135, 1842—Valdivia (diag.).

Stylorhynchus erythrofrons Lesson, Écho du Monde Sav., 11, 1st sem., col. 184, 1844—Valdivia (full descr.).

Conurus erythrofrons (sic) Des Murs (2), p. 369 (ex Lesson).

Enicognathus leptorhynchus Des Murs (2), p. 370—"desde la provincia de Santiago á la de Chiloé"; Bibra, p. 130—Santiago and Valdivia; Hartlaub (3), p. 214—Valdivia; Boeck, p. 506—Valdivia; Pelzeln (2), p. 98—Chile; Philippi (12), p. 267—Chile generally; Lataste (5), p. LXIII—Junquillos (San Carlos de Chillan), Ñuble; Barros (10), p. 357—Cuesta de Chacabuco, Aconcagua.

Henicognathus leptorhynchus Selater (2), 1867, pp. 328, 338—Chile; E. Reed (2), p. 556—very common in Arauco and Valdivia, rare in Cauquenes, Colchagua; Lanc, p. 50—Rio Bueno, Valdivia; Albert, Rev. Chil. Hist. Nat., 2, p. 39—southern Chile, north to Aconcagua; Barros (4), p. 141—Ñilahue, Curicó; Housse (1), p. 50—Isla La Mocha; C. Reed (4), p. 56—Curacautin, Malleco; Blaauw (1), pp. 25, 33—Osorno and Puerto Octai, Llanquihue; Jaffuel and Pirion, p. 110—Marga-Marga Valley, Valparaíso; Bullock (4), p. 172—Angol, Malleco (winter visitor); Barros (9a), p. 41 (actual range).

¹Barros (Rev. Chil. Hist. Nat., 24, p. 151, 1920) uses the name *Henicognathus Choraesus*. While admitting that *Psittacus choraesus* of Molina (Saggio Stor. Nat. Chile, pp. 257, 343, 1782) might have been intended for the present species, I do not see how the description, "*Brachyurus viridis, subtus cinereus, orbitis incarnatis*," can be reconciled with its characters. Compare also the remarks on this subject by Deautier and Steullet (Rev. Chil. Hist. Nat., 33, p. 479, 1929).

Enicognothus (sic) *leptorhynchus* Landbeck (9), p. 261—beech woods of Chile.
Conurus erythrofrons Lataste (1), p. CXV—Bureo (Chillan), Ñuble, and Cerros de Aculeo, Santiago.

Henicognathrus (sic) *leptorhynchus* E. Reed (4), p. 204 common in Valdivia, rarer in the north.

Range in Chile.—From Aconcagua to Llanquihue.

Material collected.—Chiloé: Quellon, ♂ ad., ♀ ad., Dec. 26, Jan. 2.—Concepción: Cabrero, three ♂ ♂ ad., July 29, Aug. 9, 1904. C. S. Reed; Quilacoya, ♂ ad., June 17, 1904. C. S. Reed.

The exact limits of the breeding range of the "Choroy" are hard to define with any degree of accuracy owing to the scarcity of proper data. It doubtless breeds in Llanquihue, Chiloé, and Valdivia, and probably in Arauco and Concepción. Father Housse mentions it as inhabiting the inaccessible cumbres of the Isla La Mocha, off Arauco. In the Angol Valley, Malleco, this paroquet, according to Bullock, is merely a winter visitor (from April to October), and the same is the case in the Ñilahue district, Curicó (fide Barros). In Colchagua an enormous nesting colony exists at a point called "Las Peñas" above the Rio Claro, and smaller numbers occur on the Rio Tinguiririca. It is an uncommon resident in the Andean valleys of O'Higgins, and a few were found nesting by Barros in January, 1926, near Chacabuco, Aconcagua.

None have been seen for many years in the Santiago region, where Lataste, in January, 1893, found them breeding in holes of trees on the summit of the Cerro de Aculeo.

From Lane's observations we learn that "they feed on certain trees in the forests, to which they appear to be restricted, as they do not resort much to cultivated fields"; but he was told at Rio Bueno "that in some years they make incessant raids on the gardens and orchards, doing great havoc when the fruit begins to ripen."

E. leptorhynchus appears to be a strictly Chilean species and has not yet been found anywhere outside the boundaries of the republic.

163. *Microsittace ferruginea minor* Chapman¹

Microsittace ferrugineus minor Chapman, Bull. Amer. Mus. N. H., 41, p. 323, 1919—Corral [Valdivia], Chile.

¹According to Barros (Rev. Chil. Hist. Nat., 24, p. 151, 1920), this is the bird designated as *Psittacus jaguilma* by Molina (Saggio Stor. Nat. Chile, pp. 257, 343, 1782), whereas Deautier and Steullet (Rev. Chil. Hist. Nat., 33, p. 479, 1929) are inclined to refer Molina's species to *Psilopsiagon aurifrons*. The diagnosis, "macurus viridis, remigibus apice fuscis, orbitis fulvis," is too indefinite to permit of final conclusion, and the name is better dropped as undeterminable.

Conurus pyrrhurus (Reichenbach MS.) Bibra, Denks. math.-naturw. Kl. Ak. Wiss. Wien, 5, p. 130, 1853—"bei Santiago (?) und im nordlichen Chile," error; nomen nudum.

Psittacara smaragdina (not *Psittacus smaragdinus* Gmelin) Cassin, p. 189—Chile.

Conurus smaragdineus Sclater (2), 1867, pp. 328, 338—Chile; E. Reed (2), p. 556—rare in Cauquenes, Colchagua.

Conurus erythrorons [sic] (not *Ara erythrofions* Lesson) Philippi (12), p. 266—common in Valdivia.

Conurus erythrofrons Landbeck (9), p. 261—beech woods of Chile (in part).

Micrositta ferruginea E. Reed (4), p. 204—Chile, rare in the north; Lane, p. 50—Calle-Calle, Valdivia, and Maquequa, Arauco; Albert, Rev. Chil. Hist. Nat., 2, p. 42—central and southern Chile; Barros (4), p. 141—Nilahue, Curicó (winter); Bullock (3), p. 121; idem (4), p. 173—Cerro de Nahuelbuta, Malleco (nesting).

Range in Chile.—From Colchagua to the Guaitecas Islands.

Material collected.—Biobio: ♂ ad., May, 1904. C. S. Reed.—Malleco: Rio Colorado (alt. 3,000 feet), ♀ ad., Feb. 5; Lake Malleco (alt. 3,500 feet), ♂ ad., Jan. 20.—Cautin: Maquehue, ♂ ad., July 15, 1912. A. C. Saldaña.—Valdivia: Gorbea, ♀ ad., Aug. 6, 1924. C. S. Reed; Máfil, one ♂ ad., three ♀ ♀, Feb. 15, 22; Ríñihue, ♂ ad., ♀ ad., March 12, 16.—Guaitecas Islands: Melinka, Ascension Island, ♂ ad., ♀ ad., Feb. 2.

Additional specimens.—Llanquihue: Fundo Esmeralda, Dept. Osorno, ♂ ad., ♀ ad. (molting), March 6, 12, 1923. R. Bohnenberger (Munich Museum).

The Chilean series differs from typical *M. f. ferruginea*,¹ of the Straits of Magellan, by smaller size, slightly darker (less yellowish) green coloration, and less extensive, also somewhat darker red abdominal area. I do not see any constant difference in the coloring of the reddish loreal space, although it is frequently of a darker tone in Chilean birds, which, as a rule, also have slightly stouter bills. Most of our specimens have wings from 173 to 180 mm., except two from Malleco, which measure 183 and 185 mm. respectively.

An adult male from Lago Blanco, Chubut, in Field Museum is more yellowish green, with a larger, paler red patch on the lower abdomen, and larger in all its dimensions (wing 191 mm.). Although its wings are a bit shorter than in Magellanic specimens, it must doubtless be referred to *M. f. ferruginea*, which would thus appear to range along the eastern slope of the Andes as far north

¹*Psittacus ferrugineus* P. L. S. Müller, Natursyst., Suppl., p. 75, 1776—based on "Perruche des terres Magellaniques" Daubenton, Pl. Enl., 85.

as Chubut in western Patagonia,¹ while *M. j. minor* is restricted to Chile proper.

This paroquet is reported to be common in the southern parts of the republic as far north as Concepción. Farther north it becomes less numerous, and it is even doubtful whether it breeds there. According to Edwyn Reed, it is rather rare in the southern part of the Hacienda de Cauquenes, Colchagua. In Nilahue, Curicó, R. Barros noticed it merely as a winter visitor. Bibra is certainly mistaken in assigning its habitat to "northern Chile," and there appears to be no authentic record for its occurrence either in the vicinity of Santiago or in Aconcagua.²

In habits and its preference for forests it is said to resemble *E. leptorhynchus*.

164. *Psilopsiagon*³ *aurifrons orbignesi* (Souancé)

*Myiopsitta orbignesia*⁴ Souancé, Rev. Mag. Zool., (2), 8, pp. 63-64, 1856—Bolivia.⁵

Bolborrhynchus andicola (not of Finsch) Philippi, Ornith., 4, p. 159—Colana, Antofagasta.

Bolborrhynchus orbignesi Sclater (4), 1886, p. 399—"Lalcalhuay," Tarapacá; idem (6), 1891, p. 135—Sacaya, Tarapacá.

Bolborrhynchus orbigny Lane, p. 51—Sacaya, Yabricoya, etc., Tarapacá (habits); Albert, Rev. Chil. Hist. Nat., 2, p. 42, 1898—Tarapacá.

Bolborrhynchus orbigneji (sic) E. Reed (4), p. 204—Tarapacá.

Range in Chile.—Extreme north, in provinces of Antofagasta and Tarapacá.

Material collected.—Antofagasta: twenty miles east of San Pedro, ♂ ad., ♀ ad., Sept. 19, 1923.

This little paroquet was first obtained on Chilean territory by Carlos Rahmer in the Cordillera of Tarapacá, where Ambrose Lane later met with it between November and March at various localities up to an elevation of 11,000 feet. According to Albert, specimens were also secured in that province by Doctor Pöhlmann. On the

¹The most northerly locality is evidently Lago General Paz, whence Lynch Arribálzaga (Anal. Mus. Nac. Hist. Nat. Buenos Aires, 8, p. 162, 1902) recorded two specimens taken by G. F. Gerling.

²See Barros, Rev. Chil. Hist. Nat., 25, p. 177, 1921.

³*Psilopsiagon* Ridgway, Proc. Biol. Soc. Wash., 25, p. 100, 1912; type, by orig. design., *Trichoglossus aurifrons* Wagler = *Psittacus (Lathamus) aurifrons* Lesson.

⁴*Myiopsitta orbignesia* Bonaparte (Rev. Mag. Zool., (2), 6, p. 151, 1854) is a nomen nudum.

⁵"Yungaz" is given as a more definite locality by Souancé in the (unpaged) text to pl. 24 of his "Iconographie des Perroquets."

occasion of the second expedition to the desert of Atacama under the leadership of Federico Philippi this species was taken at Colana, a military post in the vicinity of the Rio Inacaliri, Antofagasta, hence in the same region where our specimens come from, and was recorded by R. A. Philippi under the erroneous name of *B. andicola*.

Chilean examples agree with others from Bolivia and southern Peru. In western Argentina the typical form is replaced by the barely separable *P. o. rubrirostris*.¹ Both are conspecific with *P. aurifrons* (Lesson).

[Several other species of paroquets have been included in the Chilean fauna on unsatisfactory evidence.

Myiopsitta monachus (Boddaert).—Against Des Murs (in Gay, 1, p. 368), who states that "esta especie se encuentra en Chile hasta el estrecho de Magallanes," Philippi (Anal. Univ. Chile, 31, p. 266, 1868) points out that it does not occur in Chile anywhere in a wild state, being, however, frequently kept in cages. Boeck (Naumannia, 1855, p. 507) also mentions a live bird brought by the Indians from the Mission of San José to Valdivia.

Aratinga jandaya (Gmelin).—The specimen seen in the vicinity of San Bernardo, Santiago, by R. Housse (Rev. Chil. Hist. Nat., 29, p. 143, 1925) undoubtedly was an escaped cage-bird. The range of this paroquet is restricted to extreme northeastern Brazil.

Amoropsitta ayмара (d'Orbigny).—D'Orbigny² claims to have discovered this species in the "Quebrada de Palca, above Tacna," but this appears to be erroneous. M. Berlioz, of the Paris Museum, kindly informs us that one of the types is marked "Sicasica, Bolivia, 1834," while no paroquet is entered on the Museum registers among the birds received through d'Orbigny from Tacna Province in 1831. We may, therefore, take Sicasica, south of La Paz, as type locality.⁴ Salvadori³ lists a specimen from the "Chilian Andes," but as Leybold's birds were not always properly labeled, it might have been obtained on the Argentine side in Mendoza, where this naturalist also did a good deal of collecting. In Selater and James's "New List

¹*Conurus rubrirostris* Burmeister, Journ. Orn., 8, p. 243, 1860—Sierra de Mendoza and Sierra de Cordoba (the type examined in the Halle Museum is from the Sierra de Uspallata, Mendoza).

²Voyage Amér. Mérid., 2, p. 376, circa 1841.

³The second specimen lacks all data beyond the collector's number (417).

⁴Souancé (Iconog. Perr., text to pl. 23, 1857) likewise states that d'Orbigny's original examples are from "La Paz, Bolivie."

⁵Cat. B. Brit. Mus., 20, p. 234, 1891.

of Chilean Birds," 1892, *Bolborhynchus aymara* is given as a "resident"! E. Reed (4) (p. 204) states that it is "sometimes" found in Chile.

Psilopsiagon aujirons rubrirostris (Burmeister). The specimen from the "Chilian Andes, F. Leybold" in the British Museum has no original label, and is more likely to have come from the vicinity of Mendoza. Sclater and James (New List of Chil. Birds, p. 6) and E. Reed (4) (p. 204) call *B. rubrirostris* an "occasional visitor," but it does not appear ever to have been taken on Chilean territory.]

165. *Tyto alba tuidara* (J. E. Gray)

Strix tuidara J. E. Gray in Griffith and Pidgeon, The Animal Kingdom by Cuvier, 6, p. 75, circa 1828—new name for *Strix perlata* (not of Vieillot, 1816) Lichtenstein, Verz. Doubl. Berliner Mus., p. 59, 1823, Brazil.

Strix perlata (not of Vieillot) Fraser (1), p. 110—rare in Chile; Des Murs (2), p. 257; Cassin, p. 177—Chile (uncommon); Germain, p. 309—Santiago (nesting habits); Philippi (12), p. 247—the whole of Chile; idem, Ornith., 4, p. 158—Pica, Tarapacá; Lataste (2), pp. 165–176—Chile (habits, crit.); idem (3), pp. 63–72 (habits); idem (4), pl. XXXIII—Caillihue (Vichuquen), Curicó; idem (8), p. 112 (call-note of female).

Strix flammea (not of Linnaeus) Des Murs (2), p. 255—Chile generally; Bibra, p. 128—around Valparaíso; Pelzeln (2), p. 29—Chile (crit.); Sclater (2), 1867, p. 339—Chile; Philippi (12), p. 247—Chile; E. Reed (2), p. 556—Cauquenes, Colchagua; idem (4), p. 204—Chile; Schalow (2), p. 70—La Serena, Coquimbo; Housse (2), p. 143—San Bernardo, Santiago; idem (3), p. 225—Isla La Mocha; Jaffuel and Pirion, p. 104—Marga-Marga Valley, Valparaíso; Bullock (3), p. 127—Cerro de Nahuelbuta, Malleco; idem (4), p. 200—Angol, Malleco (breeding).

Strix pratincola (not of Bonaparte) Yarrell, p. 53—Chile (eggs descr.).

Tyto flammea perlata Barros (4), p. 140—Nilahue, Curicó (breeding); idem (5), p. 177—Cordillera of Aconcagua.

Tyto alba tuidara Passler (3), p. 450—Coronel.

Range in Chile. —Generally distributed from Tarapacá south at least to Valdivia.

Material collected.—Coquimbo: Romero, ♀ ad., Nov. 6, 1923.

Other Chilean examples have been examined in the collections at London and Paris.

Philippi had referred the Chilean barn-owls to two species, but Lataste (2), on comparing the five specimens—four from Santiago, one from Osorno—in the National Museum, found them all alike and differing from the European form in their considerably longer tarsi. According to Raspail (Act. Soc. Sci. Chili, 5, pp. 55–62, 1895), the

eggs also may be distinguished by their larger size, more regularly ovate shape, and more glossy shell.

The Barn-Owl, although distributed over the greater part of Chile, is nowhere common. Germain, who observed it in the environs of Santiago, tells us that it lays during November from three to five eggs in a hollow tree, or in the cavities of the cliffs bordering the rivers. Lataste found it breeding around Christmas time at Caillihue, Dept. Vichuquen, Curicó. Barros met with it at Nilahue as well as in the province of Aconcagua, where it inhabits the foothills and the Cordilleras up to an altitude of 1,900 meters. R. Housse records it as nesting in the monastery at San Bernardo, Santiago. Bullock lists it as fairly common at Angol, Malleco, nesting from November to February. According to Boeck (p. 498), it is extremely rare near Valdivia. Lataste has published a very interesting account of its habits, call-notes, and nidification.

166. *Bubo virginianus nacurutu* (Vieillot)

Strix nacurutu Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 7, p. 44, 1817—based on Azara, No. 42, Paraguay.

Bubo virginianus (not *Strix virginiana* Gmelin) Fraser (1), p. 110—Chile; Sclater (2), 1867, p. 339—Chile; E. Reed (2), p. 557—Cordillera of Cauquenes, Colchagua; Sclater (6), 1891, p. 135—Vilugo, Tarapacá; E. Reed (4), p. 205—Chile (crit.); Albert (1), 101, p. 658—Chile (monog.).

Ulula crassirostris (not *Strix crassirostris* Vieillot) Des Murs (2), p. 254—Chile (ex Bridges).

Bubo magellanicus Des Murs (2), p. 248—the whole of Chile; Pelzeln (2), p. 26—Chile; Philippi (12), p. 246—at the foot of the Chilean Andes (crit.); idem, Ornith., 4, p. 158—Ascotan, Antofagasta; Waugh and Lataste (2), p. CLXX—San Alfonso, Quillota, Prov. Valparaíso; Lane, p. 177—Vilugo, Tarapacá; Jaffuel and Pirion, p. 104—Marga-Marga Valley, Valparaíso.

Bubo crassirostris Cassin, p. 177—rare in the mountains of Chile; Sclater (2), 1867, p. 339—Chile.

Bubo virginianus nacurutu Barros (4), p. 139—rare in Nilahue, Curicó; idem, (5), p. 176—Valle de los Leones and Juncal, Cordillera of Aconcagua; Laubmann, Wiss. Erg. Chaco Exp., Vogel, p. 158, 1930—Lago de San Rafael, Taytao Peninsula, Llanquihue.

Range in Chile.—From Tarapacá to the Straits of Magellan.

Material collected.—Atacama: Ramadilla, Copiapó Valley, two ♀♀ ad., March 23.—Llanquihue: Rio Ñirehuau, ♂ imm., Feb. 26, 1923.

The two species, *B. "magellanicus"* and *B. virginianus (crassirostris)*, cited by the earlier authors, are now ascertained to refer to a

single form, whose correct name is the one given above, and whose range comprises a large sector of southern South America.

The Horned Owl is widely diffused throughout Chile, but like the allied races is nowhere very abundant. There are records for its occurrence in Tarapacá (Vilugo), Antofagasta (Ascotan), Atacama (Copiapó Valley), Aconcagua, Santiago, Colchagua (Cauquenes), Valparaíso (San Alfonso, Quillota), Curicó (Ñilahué), and Llanquihue (Lago San Rafael, Río Ñirehuau). In the Straits of Magellan it is reported to be more numerous. It principally inhabits the mountain valleys, ascending to an altitude of 2,300 meters.

167. *Speotyto cunicularia cunicularia* (Molina)

Strix cunicularia Molina, Saggio Stor. Nat. Chile, pp. 263, 343, 1782—Chile; Meyen, p. 70—Ramadilla, Atacama; Kittlitz (3), p. 135—near Valparaíso; Housse (2), p. 142—San Bernardo, Santiago.

Strix coquimbana "Mol." Poeppig (2), p. 280—Rio Colorado, Santiago.

Noctua cunicularia Lafresnaye and d'Orbigny, Syn. Av., 1, p. 8—Chile; d'Orbigny, p. 128—Chile; Des Murs (2), p. 245; Philippi (12), p. 246—from the Rio Imperial northwards; Lataste (1), p. CXV—Ninhue, Maule; idem (4), p. XXXIII—Caillihue (Vichuquen), Curicó; idem (5), p. LXI—Itata, Maule; Waugh and Lataste (1), p. LXXXIV—Peñaflor, Santiago; idem (2), p. CLXIX—San Alfonso, Quillota; idem (3), p. LIX—Peñaflor.

Athene cunicularia Darwin, p. 31—Chile; Fraser (1), p. 109—Chile; Cassin, p. 178—Chile; Pelzeln (2), p. 25; Selater (2), 1867, p. 339—Chile.

Pholeoptynx cunicularia E. Reed (2), p. 557—Cauquenes, Colchagua; Salvin (2), p. 426—Coquimbo.

Speotyto cunicularia Sharpe, p. 10—Coquimbo; Selater (6), 1891, p. 135—"Canchosa" and "Sacaya," Tarapacá; E. Reed (4), p. 205; Lane, p. 178—Hacienda Mansel (Santiago), Laraquete (Arauco), and Tarapacá; Schalow (2), p. 69—Las Cardas and La Serena, Coquimbo; Albert (1), 101, p. 671—Chile (habits); Jaffuel and Pirion, p. 104—Marga-Marga Valley, Valparaíso; Bullock (4), p. 199—Angol, Malleco.

Speotyto cunicularia cunicularia Barros (4), p. 140—common in Ñilahué, Curicó; idem (5), p. 176—Precordillera of Aconcagua; Passler (3), p. 449—near Coronel; Wetmore (3), p. 201—Concon, Valparaíso; Barros (10), p. 358—Cordillera of Aconcagua.

Range in Chile.—From Cautín (Rio Imperial, Temuco) north to Tarapacá (Canchones).

Material collected.—Concepción: near coast, ♂ ad., April 14.—Coquimbo: Paiguano (alt. 3,300 feet), ♂ ad., June 28; Romero, ♂ ad., ♀ ad., July 15, 18.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., March 23.

Additional specimens.—Cautín: Maquehue, Temuco, three ♂♂ ad. D. S. Bullock; Pelal, Temuco, three ♂♂ ad., one ♀ ad. A. C.

Saldaña.—Santiago: Hacienda Mansel, near Hospital, two ♂♂ ad., two ♀♀ ad. A. Lane; Santiago, one ♀ ad. L. Landbeck.—Tarapacá: Canchones, ♂ ad., ♀ ad., Jan. 27, 1890. A. Lane (all in the British Museum).

Excepting a slight increase in size in the south, there is apparently no racial variation in the Chilean Burrowing Owl, although individuals, regardless of locality, show notable differences. The darkest specimen we have seen is the bird from Paiguano, conspicuous by its deep (blackish) brown upper, and strongly buffy under parts. I had expected the Tarapacá specimens would turn out to be referable to *S. c. nanodes*, but close comparison of ample material in the British Museum showed this to be not the case. The two birds obtained by Ambrose Lane at Canchones, in size and coloration, are precisely similar to others from central Chile, being markedly larger than a series from the Peruvian littoral. There does not appear to be any appreciable difference in color between *S. c. cunicularia* and *S. c. nanodes*, while *S. c. juninensis*, from the highlands of Peru and Bolivia, besides being still larger than the first-named, may be distinguished by its paler, more reddish brown dorsal surface.

Wing measurements¹ of the various races are as follows:

S. c. cunicularia.—Canchones, Tarapacá, 178, 182; Ramadilla, Atacama, 180; Coquimbo (Romero, Paiguano), 175, 176, 178; Santiago, 183; Hacienda Mansel (Santiago), 180, 185, 185, 185; Concepción, 185; Temuco, Cautin, 180, 183, 187, 188, 190, 190, 197.

S. c. nanodes.—Littoral of western Peru (Trujillo, Chosica, Chorillos, Lima), 165, 165, 167, 168, 170, 172; Tambo Valley, Arequipa, 169, 170, 175; Catarindos Valley, Arequipa, 170.

S. c. juninensis.—Lake Junín, 195; Tinta, Dept. Cuzco, 205; Puno, Lake Titicaca, 200; Challapata, Bolivia, 205.

The Burrowing Owl is said to be locally common in Chile, where it inhabits sandy stretches along the seacoast as well as the bare hillsides and open slopes of the precordillera. In the central provinces its altitudinal range does not extend much beyond 5,000 feet,² and this probably obtains throughout the whole of its distributional area. At any rate I have not been able to find any authentic record for its alleged occurrence at high elevations. Lane, it is

¹No constant sexual differences in size exist in this species.

²Barros (Rev. Chil. Hist. Nat., 33, p. 358, 1930), in corroboration of what is said above, states that the Burrowing Owl is very rare in the Cordillera of Aconcagua, a few pairs breeding as high as Río Blanco (alt. 1,500 meters). A single specimen, probably a straggler, was shot at Piedra de la Vizcacha (alt. 1,750 meters).

true, tells us that it is said to ascend up to 10,000 feet in the Cordillera of Tarapacá, and Sclater, in his second list of birds from that province, actually cites "Canchosa" and "Sacaya" as localities. This, however, is obviously a mistake, for Lane's specimens in the British Museum are from Canchones, a farming district not far from Pica, in the foothills. At all events, this locality marks the northern limit of the bird's range in Chile. Sanborn found it in the Copiapó Valley and at several places in Coquimbo,¹ whence it is diffused through the central provinces as far south as Temuco, Cautin. It is obviously absent from the wooded districts of southern Chile, but reappears in parts of western and southern Argentina.

168. *Glaucidium nanum* (King)

Strix nana King, Zool. Journ., 3, No. 11, Sept. to Dec. 31, 1827, p. 427, 1828—Port Famine, Straits of Magellan (type in British Museum examined).

Athene ferox (not *Strix ferox* Vieillot) Fraser (1), p. 109—Chile.

Noctua pumila (not *Strix pumila* Lichtenstein) Des Murs (2), p. 244—Chile generally; Lataste (1), p. CXV—Ninhue (Itata), Maule; Waugh and Lataste (2), p. CLXIX—San Alfonso (Quillota), Valparaíso; idem (3), p. LIX—Peñaflor, Santiago; Lataste (9), p. 167—Santa Teresa (Requinoa).

Glaucidium nanum Hartlaub (3), p. 209—Valdivia; Cassin, p. 178—Chile; Germain, p. 309—Santiago (breeding habits); Sclater (2), 1867, p. 338—Chile; E. Reed (2), p. 557—Cauquenes, Colchagua; Salvin (2), p. 426—Chile; Allen, p. 104—Valparaíso; E. Reed (4), p. 205—Chile generally; Lane, p. 177—Rio Bueno, Valdivia (habits); Schalow (2), p. 698, pl. 38, fig. 2—part, Villarrica, Concepción (crit., eggs descr.); Albert (1), 101, p. 675—Chile (habits); Barros (4), p. 140—Nilahue, Curicó; idem (5), p. 177—Rio Blanco, Aconcagua; Housse (2), p. 142—San Bernardo, Santiago; Passler (3), p. 449—Coronel; Jaffuel and Pirion, p. 104—Marga-Marga Valley, Valparaíso; Bullock (3), p. 127—Cerro de Nahuelbuta, Malleco; idem (4), p. 200—Angol, Malleco.

Noctua nana Boeck, p. 498—Valdivia; Philippi (12), p. 246—Chile generally.

Athene nana Pelzeln (2), p. 25—Chile.

Glaucidium nanum vafrum Wetmore, Journ. Wash. Ac. Sci., 12, p. 323, 1922—Concon, Valparaíso (type), Rio Blanco (Aconcagua), and Tofo (Coquimbo); idem (3), p. 200—Concon.

Range in Chile.—From the Straits of Magellan north to Coquimbo (Tofo).

Material collected.—Aconcagua: Rio Blanco (alt. 1,540 meters), ♀ ad., March 29, 1926. R. Barros.—Valparaíso: Limache, two ♀ ♀ ad., May, 1921. C. S. Reed.—Malleco: Púa, ♀ ad., July 22, 1923. C. S. Reed; Curacautin, ♀ ad., ♂ juv., Jan. 10, 15.—Cautin: Pelal,

¹According to Mathew (Zoologist, 1873, p. 3578), the sandy slopes surrounding the Bay of Coquimbo are the home of innumerable Burrowing Owls.

near Temuco, ♂ ad., ♀ ad., April 16, 1913, and Dec. 30, 1919. A. C. Saldaña.—Valdivia: Máfil, ♂ imm., ♀ ad., ♀ imm., ♀ juv., Feb. 17, 18, 27; Riñihue, ♂, March 9.—Chiloé Island: Quellon, one ♂ ad., three ♂♂ imm., Jan. 1.—Llanquihue: Rio Ñirehuau, ♂ ad., March 1, 1923.

Additional specimens.—Santiago: Santiago, ♂ ad., ♀ ad., ♂ juv., Sept., 1864. Philippi and Landbeck; Hacienda Mansel, Hospital, ♂ ad., Nov. 25, 1889. A. A. Lane.—Colchagua: Cauquenes, ♀ ad., July, 1870. E. C. Reed.—Cautin: Maquehue, Temuco, four ♂♂ ad., five ♀♀ ad., May 9–20, Aug. 7–15, Sept. 11–21. D. S. Bullock; Pelal, Temuco, two ♂♂ ad., July 2, Sept. 14. A. C. Saldaña.—Valdivia: Rio Bueno, ♂ ad., Jan. 4, 1890. A. A. Lane (all in the British Museum).

After carefully comparing more than fifty specimens from the whole range, I am unable to split the "Chuncho" into two races. It is just possible that birds from central Chile (*vafrum*) have the dark tail bands on average slightly broader, but there are so many exceptions to this rule that hardly more than 40 per cent are distinguishable on this score. Size, too, varies a good deal, as the measurements given below tend to show.

G. nanum is stated to be common throughout Chile. According to Barros, its altitudinal range extends up to about 6,000 feet. It breeds from September into November. Outside of Chile, it is found in Tierra del Fuego and Patagonia, stretching along the eastern side of the Andes as far north as Lake Nahuel Huapi.

MEASUREMENTS OF ADULT BIRDS

| | Wing | Tail |
|---|---------------------------------|-------------------------------|
| One from Port Famine (type of <i>Strix nana</i>) | 100 | 62 |
| Three males from Tierra del Fuego | 91, 93, 94 | 62, 64, 64 |
| One female from Tierra del Fuego | 102 | 68 |
| One female from Lago Blanco, Chubut | 102 | 69 |
| One male from Rio Negro | 102 | 73 |
| One female from Rio Negro | 113 | 79 |
| Four males from Sierra de Cordoba | 97, 97, 99, 108 | 69, 70, 72, 75 |
| One male from Rio Bueno, Valdivia | 92 | 62 |
| Seven males from Temuco, Cautin | 91, 93, 93, 94, 96, 100, 104 | 64, 66, 66, 66, 67, 69, 72 |
| Six females from Temuco, Cautin | 101, 103, 103, 103, 103, 104 | 68, 71, 71, 72, 73, 73 |
| One female from Púa, Malleco | 113 | 80 |
| One female from Colchagua | 103 | 75 |
| Two males from Santiago | 100, 103 | 70, 73 |
| One female from Santiago | 115 | 80 |
| One male from Limache, Valparaiso | 112 | 76 |
| One female from Limache, Valparaiso | 115 | 79 |
| One female from Rio Blanco, Aconcagua | 116 | 82 |

169. *Glaucidium brasilianum brasilianum* (Gmelin)¹

Strix brasiliana Gmelin, Syst. Nat., 1, (1), p. 289, 1788—based on "Caburé"
[Brisson ex] Marcgrave, Hist. Nat. Bras., p. 212, n. e. Brazil = Ceará
(auct. Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 12, No. 18, p. 407, 1929).

Noctua pumila (not *Strix pumila* Lichtenstein) Philippi, Ornith., 4, p. 158—
Canchones, Tarapacá.

Glaucidium nanum (not *Strix nana* King) Schallow (2), p. 698, pl. 38, fig. 1—
part, No. 64, Pica, Tarapacá.

Range in Chile.—Extreme northern section (Pica and Canchones, Tarapacá).

Material examined.—Tarapacá: Pampa del Tamarugal, Pica, adult (not sexed), end of August, 1893. L. Plate (Berlin Museum).—Wing 100; tail 71.

This specimen differs at a glance from the large series of *G. nanum* in having the tail banded with white instead of with rufous. It agrees particularly well with a female from Chosica, Lima, collected by Percy O. Simons, in the British Museum. Both have six white tail bands (about 2 mm. wide) and the upper parts decidedly grayish brown, while the posterior lower parts are broadly streaked with dark brown. In the markings of the pileum, the Pica bird is more like one from Trujillo, the forehead only being streaked and the remainder spotted with buffy white, whereas in the Chosica specimen the whole upper part of the head is longitudinally striped with white. Examples of this owl from the Peruvian and North Chilean coast appear to be inseparable from typical *brasilianum*, although Lima birds have been tentatively referred to *G. b. phalaenoides* by Berlepsch and Stolzmann.²

The relationships of *G. brasilianum* and *G. nanum* need further investigation. Wetmore³ thinks it highly probable that they will prove to be conspecific, and such is my impression, too. It is well to recall, however, that Chapman⁴ records a specimen of *G. n. vafrum* from Moquegua, s. Peru, while Plate's bird discussed above traces the range of *G. b. brasilianum* down to the Chilean province of Tarapacá. Thus, the ranges of the two species would seem to overlap, unless the Moquegua bird was a straggler from the south.

¹A specimen of *G. jardinei* from "Central Chile, Landbeck" in the H. Berkeley James Collection, British Museum, is no doubt incorrectly labeled.

²P. Z. S. Lond., 1892, p. 388.

³Bull. U. S. Nat. Mus., 133, pp. 200–201, 1926.

⁴Amer. Mus. Novit., 380, p. 10, 1929.

170. *Asio flammeus brevicaudus* (Schlegel)

Otus brevicaudus Schlegel, Mus. Pays-Bas, Oti, p. 4, 1863—Brazil.

Otus brachyotus d'Orbigny, p. 134—mountains of Chile.

Otus palustris Fraser (1), p. 110—rare in the province of Colchagua.

Ulula otus (errore) Des Murs (2), p. 251—Chile.

Otus brachyotus Cassin, p. 177—Chile; Pelzeln (2), p. 27—Chile (crit.); Sclater (2), 1867, p. 339—Chile; E. Reed, Ibis, 1874, pp. 82, 83—Mas A Tierra (breeding); idem (2), p. 557—Cauquenes, Colchagua; Streets, p. 15—Talcaguano, Concepción.

Ulula brachyotus Philippi (12), p. 246—not rare in the central provinces.

Asio brachyotus E. Reed (4), p. 205—Chile; Albert (1), 101, p. 663—Chile (habits, crit.); Bullock (4), p. 198—Angol, Malleco.

Strix flammea (errore) Johow, Est. Fl. Isl. Juan Fernandez, p. 237—Mas A Tierra.

Asio accipitrinus cassini Schallow (2), p. 743—Mas A Tierra.

Asio flammeus brevicaudus Bangs, Proc. New Eng. Zool. Cl., 6, p. 96, 1919—Mas A Tierra (crit.); Laubmann, Wiss. Ergeb. Deuts. Chaco Exp., Vogel, p. 156, 1930—Valdivia (crit.).

Asio flammeus Lonnberg, p. 8—Mas A Tierra.

Asio flammeus flammeus Passler (3), p. 449—Coronel, Concepción.

Asio accipitrinus Jaffuel and Pirion, p. 104—Marga-Marga Valley, Valparaíso.

Range in Chile.—Locally in the central and southern provinces (Santiago, Valparaíso, Colchagua, Talcaguano, Concepción, Angol, Valdivia), on Mas A Tierra Island, and in Magellania.

Material examined.—Chile: Valdivia, two (unsexed) adults. F. Ohde (Munich Museum).

Very little is known about the distribution of the Short-eared Owl in Chile. According to Philippi, who lists adults, young birds, and eggs in the collection of the Museo Nacional at Santiago, the “Ñuco” is not rare in the central provinces, but no definite localities are given. Both Bridges and Edwyn Reed found it in Colchagua, whence the British Museum has a specimen obtained by the latter naturalist. Jaffuel and Pirion list the “Ñuco” as breeding in the Marga-Marga Valley, Valparaíso. Streets records it from Talcaguano, and Pässler shot specimens at Coronel, Concepción. Bullock mentions it as fairly common around Angol, Malleco, and F. Ohde forwarded two skins from Valdivia to the Munich Museum. It is also stated to breed, in some years very abundantly, on Mas A Tierra, and it is reported to be not uncommon along the Straits of Magellan.

For geographical reasons we have provisionally adopted Schlegel's subspecific term for the form of southern South America, although the two Chilean specimens examined hardly differ from North

American birds. Mr. Bangs, who has seen much more material, considers them, however, separable.

[*Asio otus* (Linnaeus) is erroneously included among the birds of Chile by Des Murs s. n. *Ulula vulgaris* (in Gay, 1, p. 250). Needless to say, no race of the Long-eared Owl has ever been found in South America.]

171. *Strix rufipes rufipes* King

Strix rufipes King, Zool. Journ., 3, No. 11, Sept. to Dec. 31, 1827, p. 426, pub. early in 1828—Port Famine, Straits of Magellan.

Ulula rufipes Darwin, p. 34—Chonos Archipelago; Des Murs (2), p. 251 (ex King); Boeck, p. 498—Valdivia; Philippi (12), p. 247—Valdivia and Aculeo, Santiago.

Ulula fasciata Des Murs, Icon. Ornith., livr. 7, pl. 37, Jan., 1847—Chile, coll. Gay (type in Paris Museum); idem in Gay, Hist. fis. pol. Chile, Zool., 1, p. 252, 1847—Chile.

Syrnium hylophilum (not of Temminck) Hartlaub (3), 1853, p. 209—Valdivia; Sclater (2), 1867, p. 339—Chile.

Syrnium rufipes E. Reed (2), p. 557—Cordillera de Cauquenes, Colchagua; idem (4), p. 205—central provinces (rare); Schallow (2), p. 697—Puerto Montt; Albert (1), 101, p. 667—central and southern Chile (habits, crit.); C. Reed, Av. Prov. Concepción, 1904, p. 41—Concepción; Cherrie and Reichenberger, Amer. Mus. Nov., 27, p. 1, 1921—Maquehue, Temuco, Cautin; Bullock (4), p. 199—Angol, Malleco.

Asio americanus (not of Stephens) Jaffuel and Pirion, p. 104—Marga-Marga Valley, Valparaiso.

Range in Chile. —From the Straits of Magellan north to Colchagua and Santiago.

Material collected. —Chiloé Island: Quellon, adult, Dec. 23.—Valdivia: Máfil, ? (in juvenile molt), Feb. 26.—Malleco: Curacautin, ? juv., Jan. 12.

Additional specimens.—Straits of Magellan: Port Famine, one adult, type of species. Captain King (British Museum).—Chile: adult, type of *Ulula fasciata*. C. Gay (Paris Museum).

This owl is reported as not uncommon on both slopes of the Andes from the Straits of Magellan north to Valdivia and Lake Nahuel Huapi. According to Boeck, it is not rare in the vicinity of Valdivia, whence it has also been recorded by Hartlaub and Philippi. The American Museum of Natural History has skins from near Temuco, Cautin, and Mr. Sanborn secured one at Curacautin, Malleco. Bullock found it common around Angol. Farther north this species

appears to be rather scarce. Edwyn Reed states that he shot one specimen in the Cordillera near Cauquenes, Colchagua, and Philippi lists others from Aculeo, Santiago.

A nearly allied form, *S. rufipes chacoensis* Cherrie and Reichenberger¹ inhabits western Paraguay and the plains of Argentina, from eastern Salta to La Pampa.²

172. *Circus cinereus* Vieillot

Circus cinereus Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 4, p. 454, 1816—based on Azara, No. 32, Paraguay and near the La Plata River; d'Orbigny, p. 110—"au Chili"; Darwin, p. 30—Concepción; Fraser (1), p. 109—Chile; Des Murs (2), p. 239—Chile (not common); Cassin, p. 175—Chile (common); Pelzeln (2), p. 13—Chile (spec. examined); Selater (2), 1867, pp. 330, 338—Chile (crit.); Philippi (12), p. 245—common in the central provinces, rare in the south; E. Reed (2), p. 558—Cauquenes, Colchagua (common); Sharpe, p. 10—Coquimbo; Salvin (2), p. 426—Coquimbo; E. Reed (4), p. 205—common; Albert (1), 108, p. 247—Chile (monog.); Barros (5), p. 175—Rio Blanco, Aconcagua (?); idem (6), p. 32—San Bernardo, Santiago; Housse (2), p. 142—San Bernardo; Barros (8), p. 142—Ñilhue, Curicó; Jaffuel and Pirion, p. 103—Marga-Marga Valley, Valparaíso; Bullock (4), p. 195—Angol (nesting).

Circus histrionicus Bibra,¹ p. 128—near Santiago (common).

Circus poliopterus Pelzeln (2), p. 13—Chile (crit.; spec. in Vienna Museum examined); Selater (2), 1867, pp. 330, 338—Chile (ex Pelzeln); E. Reed (4), p. 205 (ex Pelzeln).

Range in Chile.—From Copiapó to the Straits of Magellan, locally common, rare in the south.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., Aug. 25.—Curicó: Cordillera de Curicó, ♂ juv., June 4, 1923. C. S. Reed.—Valdivia: Máfil, ♂ juv., Feb. 27.

Additional specimens.—Chile (not specified): one ♂ ad., one ♂ (in transitional plumage), two ♀ ♀ ad., two juv. "Novara" Expedition, collected by Segeth and Zelebor.—Llanquihue: Desagüe, near Puerto Montt, ♂ juv. G. Hopke (all in the Vienna Museum).

Chilean birds agree with others from Peru and Brazil. No topotypical material is available for comparison. Pelzeln lists this species under two different names. Dr. Segeth's specimen, referred to *C. poliopterus*, is an adult female with rufous- and white-barred under parts and white, basally cinnamon-banded upper tail coverts.

¹Amer. Mus. Novit., 27, p. 1, 1921—Fort Wheeler, Paraguayan Chaco.

²Cf. Dabbene, El Hornero, 3, pp. 405-407, 1926.

³*Accipiter pileatus* Bibra (p. 128—twelve hours from Valparaíso in the vicinity of a lagoon) probably refers to young birds of this harrier.

It appears to me indistinguishable from another example in similar plumage identified by Pelzeln as *C. cinereus*. The second individual stated to be from "Barril in Chile" (Cuming) does not differ from the birds in juvenile plumage of the latter species.

The "Vari" is reported to be common in the central provinces (Santiago and Colchagua). At various times it has also been found at Coquimbo, and one of Sanborn's specimens extends its Chilean range north to the Copiapó Valley. According to Bullock, this harrier is common around Angol, where it breeds in marshes and meadows from October to January. Although the species is not included in Hartlaub's and Boeck's lists of Valdivian birds, Sanborn shot a young male at Máfil in that province. Hopke obtained it even farther south at Desagüe, Llanquihue.

C. cinereus is widely diffused in Argentina south to Tierra del Fuego, and occurs also in Peru and Ecuador.

173. *Circus buffoni* (Gmelin)

Falco buffoni Gmelin, Syst. Nat., 1, (1), p. 277, 1788—based on "Cayenne Ringtail" Latham, Gen. Syn. Birds, 1, (1), p. 91, Cayenne.

Circus macropus Cassin, p. 175—rare in Chile; Philippi (2), p. 14—Chile (one adult male); idem (12), p. 246—rare in the central provinces; Sclater (2), 1867, pp. 330, 338—Chile (ex Philippi); Salvin, Ibis, 1875, p. 372—Mas Afuera (?); E. Reed (2), p. 558—Cauquenes, Colchagua; idem (4), p. 205—Chile (rare); Albert (1), 108, p. 251—Chile (monog.); Philippi (24), p. 5—not rare in Chile; (?) Lataste (9), p. 167—Peñaflor, Santiago.

Circus megaspilus Pelzeln (2), p. 14—Chile (spec. in Vienna Museum examined).

Range in Chile.—In central provinces of Santiago and Colchagua.

Material examined.—Chile (locality not specified): one juv. "Novara" Expedition (Vienna Museum).

The example in the Vienna Museum is a bird in juvenile plumage, as figured by Gray and Mitchell (Gen. Birds, 1, pl. 11). It generally agrees with another from Brazil, collected by Natterer, but has the foreneck much more deeply washed with buff and the markings below more streak-like, less guttate.

The "Peuco huevetaro" is listed by Philippi and Edwyn Reed as a rare inhabitant of the central provinces. According to Albert, it is much less common than *C. cinereus*, but ranges from the Cordilleras down to the coast. Gilliss and the "Novara" Expedition likewise obtained specimens of this harrier somewhere in central Chile.

C. buffoni is diffused over the greater part of South America.

174. *Buteo polyosoma polyosoma* (Quoy and Gaimard)

Falco polyosoma Quoy and Gaimard in Freycinet, Voy. Uranie et Physicienne, Zool., livr. 3, p. 92, pl. 14, Aug., 1824—Falkland Islands (descr. of melanistic phase of adult male).

Aquila braccata Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Curios., 16, Suppl., 1, p. 65, pl. 18, 1834—"Desierta de Copiapó," Atacama (descr. of normal phase of adult male).

Buteo tricolor d'Orbigny, p. 106—vicinity of Santiago.

Buteo erythronotus Darwin, p. 26—Chiloé Island; Fraser (1), p. 109—Chile (habits); Des Murs (2), p. 215—the whole of Chile, Concepción being specifically mentioned; Bibra, p. 128—Cordillera [of Santiago]; Boeck, p. 497—Valdivia; Cassin, p. 175—Chile (not common); Germain, p. 309—Santiago (nesting habits); Sclater (2), 1867, pp. 329, 338—Chile; Philippi (12), p. 243—the whole of Chile; E. Reed (2), p. 558—Cauquenes, Colchagua; Salvin (2), p. 426—Coquimbo; Sclater (4), 1886, p. 399—"Lalcalhuay," Tarapacá; idem (6), 1891, p. 135—Sacaya and "Canchosa," Tarapacá; Philippi, Ornith., 4, p. 158—Cebollar, Antofagasta; Lataste (5), p. LX—Llohué (Itata), Maule; E. Reed (4), p. 205—Cordilleras of central provinces; Lane, p. 179—Cancosa and near Sacaya, Tarapacá; Schalow (2), p. 695—Pampa del Tamarugal, Iquique, Tarapacá; Albert (1), 1908, p. 255—Chile (crit.); idem (3), p. 648 (crit.); idem (4), p. 442 (crit.); Philippi (24), p. 13—Chile (crit.); Barros (5), p. 176—Rio Blanco, Aconcagua; Housse (2), p. 141—San Bernardo, Santiago; idem (3), p. 225—Isla La Mocha; Barros (8), p. 142—Nahue, Curicó; Jaffuel and Piron, p. 103—Marga-Marga Valley, Valparaíso; Bullock (3), p. 126—Nahuelbuta, Malleco; idem (4), p. 196—Angol; Housse (6), p. 243—Chile (crit.).

Buteo braccatus Pelzeln (2), p. 6—Chile.

Buteo polyosoma Philippi (12), p. 243—Santiago; E. Reed (4), p. 205—Chile (rare).

Buteo ventralis Philippi (12), p. 243—southern provinces; E. Reed (4), p. 205—Chile; Housse (2), p. 142—San Bernardo, Santiago.

Buteo melanostethus (os) Philippi, Anal. Univ. Chile, 103, pp. 663, 665, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 167, 1899—Prov. Santiago; idem (24), p. 5, pl. 2—central provinces (=melanistic phase of adult female).

*Buteo poecilogaster*¹ Philippi, Anal. Univ. Chile, 103, pp. 663, 666, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 167, 1899—Chile; idem (24), p. 6, pl. 3 (based on a single unsexed specimen; =juvenile plumage); Housse (1), p. 48—Isla La Mocha.

*Buteo macronychus*² Philippi, Anal. Univ. Chile, 103, pp. 664, 667, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 168, 1899—Valdivia; idem (24), p. 8, pl. 4—Valdivia (=juvenile plumage).

Buteo ater Philippi, Anal. Univ. Chile, 103, pp. 664, 667, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 168, 1899—Valdivia; idem (24), p. 9, pl. 5—Valdivia (=melanistic phase of juvenile plumage).

¹ Misspelled "*poecilogaster*" in the "Anales de la Universidad" on p. 663.

² Misspelled "*macronychus*" in the "Anales de la Universidad."

Buteo albigula Philippi, Anal. Univ. Chile, 103, p. 664, 1899—Valdivia; idem, Arch. Naturg., 65, (1), p. 170, 1899—Valdivia; idem (24), p. 9, pl. 6—Valdivia (= juvenile plumage).

Buteo arthiops Philippi, Anal. Univ. Chile, 103, pp. 665, 668, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 168, 1899—Chile.

Asurina (?) *aethiops* Philippi (24), p. 16, pl. 8—central provinces (= melanistic phase of juvenile plumage).

Buteo pictus Philippi, Anal. Univ. Chile, 103, pp. 665, 668, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 169, 1899—Chile (= juvenile plumage).

Asurina (?) *picta* Philippi (24), p. 17, pl. 9—Valdivia.

Buteo elegans Philippi, Anal. Univ. Chile, 103, pp. 665, 669, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 169, 1899—Chile; idem (24), p. 10, pl. 7—Santiago (= juvenile plumage).

Buteo obsoletus (errore) Albert (1), 108, p. 260—Chile; idem (3), p. 644 (crit.).

Buteo albicaudatus (errore) Albert (1), 108, p. 263—Chile (crit.); idem (3), p. 646 (crit.); idem (4), p. 440 (crit.).

Buteo swainsoni (errore) Albert (4), p. 438—Chile (crit.).

Buteo poecilochrous Stresemann, Journ. Orn., 73, p. 316, 1925—Macaya, "Iquique," Tarapacá.

Range in Chile.—From Tarapacá south to the Straits of Magellan.

Material collected.—Atacama: Domeyko, ♀ ad., Aug. 15.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♀ ad., March 6.

Additional specimens.—Tarapacá: Cancosa, ♂ ad., April 12, 1890. A. A. Lane; three leagues s. w. of Sacaya, ♀ ad., April 6, 1890. A. A. Lane; Cordillera of Tarapacá, ♀ ad., Jan. 27, 1886. C. Rahmer; Macaya (near Mamifia), ♀ ad., no date. H. Rowland.—"Cordillera of Chile:" ♀ ad. T. Bridges (all in the British Museum).

Lafresnaye¹ apparently was the first to recognize the specific identity of *B. polyosoma*, *B. erythronotus*, and *Aquila braccata*, and to suggest the possibility of *B. unicolor* being merely a melanistic variant of the same species. His error in associating with them also *Spizaetus leucurus* Vieill. and *Falco pterocles* Temm., both of which undoubtedly pertain to *B. albicaudatus*, probably accounts for his conclusions having been ignored by subsequent writers, until the problem was reinvestigated by Stresemann,² whose results fully substantiate Lafresnaye's contention.

The status of the White-tailed Buzzard in Chile has been particularly confused by Philippi, who added seven more supposed new species, and by Albert's subsequent attempts to disentangle the resulting chaos. As far as I can see, this group of hawks is repre-

¹ Rev. Mag. Zool., (2), 1, pp. 385-389, 1849.

² Journ. Orn., 72, p. 439, 1924; l. c., 73, pp. 309-319, 1925.

sented in Chile by a single species, *B. p. polyosoma*, as defined by Stresemann. *B. ventralis* Gould, admitted by K. Swann¹ as a resident form of Patagonia, Tierra del Fuego, and southern Chile, nearly allied to the North American *B. borealis*, was clearly based upon the juvenile plumage of *B. p. polyosoma*. This is shown by a male example from Porvenir, Tierra del Fuego, May 3, 1916, J. Mogensen, in Field Museum (No. 65,337), which agrees very well with Gould's and Swann's descriptions, and at the same time is an exact duplicate of Philippi's plate of *B. poecilogaster*. Needless to say, beyond a superficial resemblance it has nothing in common with the North American bird.²

As to Philippi's other supposed novelties, which Albert attempted to assign to three species, the North American *B. obsoletus* (name changed to *B. swainsoni* in the "Ornis"), *B. erythronotus* and *B. albicaudatus*, it seems pretty certain that *B. macronychus*, *B. albigula*, *B. elegans*, and *B. pictus* also refer to variations of the immature plumage. *B. melanostethus* obviously represents the melanistic phase of the female with rufous belly, while *B. ater* and *B. aethiops* appear to have been based on juvenile specimens in the dark brown stage similar to the type of *B. unicolor*.³

The females from Rio Ñirehuau and near Sacaya as well as Bridges's specimen from the "Cordilleras of Chile," all normally colored, viz. rufous-backed and white-bellied, are exactly like others from Tierra del Fuego and Argentina (Chubut), and the adult male from Cancosa, Tarapacá, cannot be told from southern examples either. Their dimensions fall well within the figures of *B. p. polyosoma*, and the third primary is from 5 to 12 mm. longer than the fifth. Another female (in normal plumage) from Macaya has the third and fifth primaries of equal length, a somewhat longer tail (230 mm.), and the under parts wholly white with the exception of a few narrow dusky bars on the abdomen. This is evidently No. 2 of the specimens listed by Stresemann⁴ under "*B. poecilochrous*." He gives the wing as 465, but I measure it to be 410 mm. (The female collected by Rahmer in the Cordillera of Tarapacá is a very peculiar bird. Above, it resembles the ordinary female type, having the

¹ Monog. Birds of Prey, Part 7, p. 397, 1928.

² In this connection it may be recalled that Stone (Rep. Princeton Univ. Exp. Patag., 2, [Ornith.], Part 4, p. 636, 1915) also found the Tierra del Fuego bird mentioned by Cassin (U. S. Expl. Exp., p. 94, pl. 3, fig. 2, 1858) as *B. ventralis* to be undoubtedly a young "*B. erythronotus*" [= *B. p. polyosoma*].

³ Cf. Hellmayr, Nov. Zool., 28, p. 186, 1921.

⁴ Journ. Orn., 73, p. 316, 1925.

whole of the upper and middle back bright rufous; but underneath, the throat is white, the foreneck and breast slaty black, mixed with white, the lower breast even barred with black and white; the abdomen is barred with blackish and rufescent on a white ground, the under tail coverts are white. In addition to its aberrant coloration, it is remarkably large [wing 440; tail 235]¹ and agrees with Stresemann's measurements of *B. poecilochrous*.)

The bird from Domeyko, an adult female in the melanistic phase, is uniform slate black below and somewhat more grayish posteriorly, with obsolete grayish bars on the tibial feathers. It lacks every trace of rufous brown on the abdomen, and thus resembles the corresponding phase of *B. poecilochrous*, as characterized by Stresemann (p. 312). Still I have no doubt as to its being referable to *B. p. polyosoma*, since it agrees with it in size (wing 367; tail 185) and proportions of primaries (third about 20 mm. longer than fifth). Except for possessing some marginal edges of rufous on the upper back, the Domeyko bird is an absolute duplicate of a female of "*B. poecilochrous*" (in the British Museum) from Choquecamate, Cochabamba, Bolivia, collected by P. O. Simons on July 29, 1901.² The Bolivian specimen is rather larger (wing 415; tail 210) and has a shorter wing-tip, the third primary being but 5 mm. longer than the fifth. That these slight divergencies denote specific difference seems altogether unlikely, and I am inclined to agree with Chapman³ that the status of *B. poecilochrous* cannot be regarded as satisfactorily established. The fact that a color-phase supposed to be characteristic of *B. poecilochrous* now turns out to occur likewise in the range of *B. p. polyosoma* makes the need of further information on the subject even more strongly felt. For the present, I am not disposed to separate the two large Tarapacá birds (from Macaya and Cordillera of Tarapacá) from the rest of the Chilean series.

B. p. polyosoma ranges all over Chile, from the coast up to an elevation of 10,000 feet, and is reported to be common in suitable localities. In the northern section of the republic it was taken in the Andes of Tarapacá by Rahmer and Lane; in the Pampa del Tamarugal, near Iquique, by Plate; at Cebollar, Antofagasta, by Philippi; in Atacama, by Meyen at Copiapó, by Sanborn at Domeyko; at

¹ The skin being distorted, the wing-formula cannot be ascertained.

² Listed by Stresemann (Journ. Orn., 73, p. 316, 1925) as "*Chaquecamata*, ♂, mel. Kleid"!

³ Bull. Amer. Mus. N. H., 55, pp. 229-230, 1926.

Tofo, sixty miles north of Coquimbo, by Hallinan,¹ etc. Its range extends even into southern Peru and Bolivia.

A closely allied form, *B. p. exsul* Salvin, breeds on Mas Afuera.

175. *Parabuteo unicinctus unicinctus* (Temminck)

Falco unicinctus Temminck, Nouv. Rec. Pl. Col., livr. 53, pl. 313, 1824—"dans les environs du Rio Grande, près Boa-Vista,² Brésil," coll. A. de Saint-Hilaire (type in Paris Museum).

Astur unicinctus Fraser (1), p. 109—woody parts of [central] Chile.

Buteo unicinctus Des Murs (2), p. 216—Chile (habits); Boeck, p. 497—Valdivia; Philippi (12), p. 243—central provinces; (?) idem, Ornith., 4, p. 158—Cana, Antofagasta; idem (24), p. 14—Chile (crit.); Housse (2), p. 142—San Bernardo, Santiago; idem (6), p. 243—Chile (crit.).

Morphnus unicinctus Cassin, p. 174—Chile.

Circus unicinctus Germain, p. 309—Santiago (nesting habits, eggs).

Urubitinga unicincta Pelzeln (2), p. 6—Chile; Sclater (2), 1867, pp. 329, 338—Chile; E. Reed (2), p. 558—Cauquenes, Colchagua.

Antenor unicinctus E. Reed (4), p. 205—Chile; Lane, p. 179—central and southern Chile; Albert (1), 108, p. 269—Chile (descr., habits).

Parabuteo unicinctus Barros (4), p. 48—Nilahue, Curicó; Jaffuel and Pirion, p. 103—Marga-Marga Valley, Valparaíso.

Range in Chile.—Central and southern provinces, ranging from Santiago to Valdivia.

Material examined.—Santiago: Santiago, one ♂ ad., one ♀ juv. E. C. Reed (British Museum).

According to the Chilean naturalists, this hawk is fairly common in the central provinces near Santiago (Philippi, Germain), San Bernardo (Housse), Cauquenes, Colchagua (E. Reed), and Curicó (Barros). Boeck likewise records it as abundant in the vicinity of Valdivia. Ambrose Lane writes: "This species occurs on the low-lying stretches of swampy or sandy plain which occur in the vicinity of the coast of Central and Southern Chile, as well as in similar localities inland, and also on open stretches of country. It occurs in places about Valdivia, and probably on Chiloé, and I heard that its range extends for some distance further south." I am strongly inclined to believe that Philippi's record from Cana, Cordillera of Antofagasta, refers to some other species.

¹ Chapman, Bull. U. S. Nat. Mus., 117, p. 57, 1921.

² Boa Vista is an Indian village south of the Rio Parahyba in western Minas Geraes, Comarca Desemboque (cf. A. de Saint-Hilaire, Voy. Intér. Brésil, Trois. Partie, 2, p. 266, 1848).

176. *Geranoaetus melanoleucus australis* Swann

Geranoaetus melanoleucus australis Swann, Syn. Accip., 2nd ed., Part 2, p. 67, 1922—Valle del Lago Blanco, Chubut.

Haliaeetus melanoleucus d'Orbigny, p. 76—on the west side to the foot of the Chilean Cordilleras.

*Haliaeetus agui*a Fraser (1), p. 108—woody and mountainous parts of Chile (habits); Yarrell, p. 52—Chile (eggs descr.); Bibra, p. 123—common in the lowlands and on the hills around Valparaiso.

Pontoaetus melanoleucus Des Murs (2), p. 221—Chile generally (habits); Boeck, p. 497—Valdivia; Cassin, p. 175—mountains of Chile; Germain, p. 309—Santiago (nesting habits); Philippi (12), p. 244—the whole of Chile, rare in the south; Lataste (9), p. 167—Cerro de San Cristobal.

Geranoaetus melanoleucus Pelzeln (2), p. 7—Chile (crit.); Sclater (2), 1867, pp. 329, 338—Chile; E. Reed (2), p. 558—Baños de Cauquenes, Colchagua; idem (4), p. 205—Chile; Schalow (2), p. 695—Ovalle and La Serena, Coquimbo; Albert (1), 108, p. 273—Cordilleras of Chile and Magallania; Barros (4), p. 48—Ñilahué, Curicó (rare); idem (5), p. 176—Los Andes and Valle de los Leones, Aconcagua; idem (6), p. 32—Cerro de San Bernardo, Santiago; Housse (2), p. 141—San Bernardo; E. Reed (4), 29, p. 189—Doñihue, O'Higgins; Jaffuel and Pirion, p. 103—Marga-Marga Valley, Valparaiso.

Range in Chile.—From Coquimbo to the Straits of Magellan.

Material collected.—Llanquihue; Rio Ñirehuau, ♂ ad., March 8. W. H. Osgood.—Valparaiso: Limache, ♂ juv., July, 1923. C. S. Reed.

The adult bird has the belly even more strongly barred with black than specimens from Aconquija, Tucumán, showing the Chilean form to be *G. m. australis*, as distinguished by Swann from the plain white-bellied typical race, which seems to be restricted to Paraguay, southern Brazil, and northeastern Argentina.

G. m. australis is reported as not uncommon in the wooded and mountainous parts of central Chile, but as rather rare in the south. The most northerly locality on record is Coquimbo, where specimens were obtained by Plate.

[*Harpyhaliaetus coronatus* (Vieillot) is included amongst the birds of Chile by Albert (Anal. Univ. Chile, 108, p. 277, 1901) with the caption "fairly rare in our country, frequenting the vicinity of water and the sea-coast." Sharpe (Cat. B. Brit. Mus., 1, p. 222, 1874) lists a specimen said to be from "Chile," which Gurney (Ibis, 1876, p. 491) recognized as a nearly adult bird of *H. (Urubitornis) solitarius* (Tschudi). Swann (Monog. Birds of Prey, Part 8, pp. 475, 477,

Jan., 1930) credits both *Harpyhaliaetus coronatus* and *Urubitornis solitarius* to "Chile," but fails to give any further details.

There does not seem to exist a single authentic record for the occurrence of either species in Chile.]

177. *Accipiter chilensis* Philippi and Landbeck

Accipiter chilensis Philippi and Landbeck, Arch. Naturg., 30, (1), p. 43, 1864—Chile; Landbeck, Anal. Univ. Chile, 24, p. 346, 1864—"desde la provincia de Aconcagua hasta Chiloé, . . . mui commun en los alrededores de Valdivia"; Sclater (2), 1867, pp. 329, 338—Chile (crit.); Philippi (12), p. 245—the whole of Chile; Sclater and Salvin, Exot. Orn., p. 73, pl. 37, 1867—Chile and Straits of Magellan; E. Reed (2), p. 558—Cauquenes, Colchagua; idem (4), p. 206—Chile; Allen, p. 105—Valparaiso; Lane, p. 189—Maquegua, Arauco; Philippi (24), p. 2, pl. 1—Chile (descr., crit.).

Accipiter cooperi (not of Bonaparte) Des Murs (2), p. 237—Chile south to the Straits of Magellan; Pelzeln (2), p. 13—Chile (crit.); Housse (2), p. 142—San Bernardo, Santiago.

(?) *Accipiter palumbarius americanus* (errore) Bibra, p. 128—near Santiago.

Accipiter pileatus (not of Temminck) Des Murs (2), p. 236—Chile (part, excl. description); Albert (1), 108, p. 280—Chile (crit.).

Nisus pileatus Hartlaub (3), p. 209—Valdivia.

Accipiter magnirostris (errore) Des Murs (2), p. 235—Chile (part, excl. description); Boeck, p. 498—Valdivia.

Cooperastur chilensis Housse (3), p. 225—Isla La Mocha; Jaffuel and Pirion, p. 103—Marga-Marga Valley, Valparaiso.

Range in Chile.—From Aconcagua to the Straits of Magellan.

Material collected.—Cautin: Maquehue, Temuco, ♀ juv., Aug. 21, 1905. D. S. Bullock.—Valdivia: Ríñihue, ♂ juv., March 14, 1923. C. C. Sanborn.

Besides, we have examined a number of specimens (both adult and young) from "Chile," and an adult male from Santiago. E. C. Reed coll., in European collections.

The Chilean Sparrow-hawk, which is probably subspecifically related to *A. bicolor* (Vieill.), appears to be rather widely diffused in Chile. According to Philippi and Landbeck, it ranges from Aconcagua south to Chiloé, being particularly common in the vicinity of Valdivia. Albert mentions having seen it in Chiloé, while other collectors met with it in Colchagua, Arauco, and Cautin. In the central provinces it is found on the lower outliers of the Cordilleras and among the bushy woods intermixed with larger trees. Females were shot by Landbeck in the act of robbing the hen-roosts.

In the south its range extends to the Straits of Magellan, where specimens have been secured by Cunningham at Punta Arenas;¹ by the naturalists of the "Mission du Cap Horn" at the same locality as well as in Orange Bay and on Gable Island;² and by Dabbene at Ushuaia, Tierra del Fuego.³ It has also been recorded from the Rio Fetaleufu, in northwestern Chubut.⁴

[*Accipiter erythronemius* (Kaup), sometimes credited to Chile, is a nearly allied species, which inhabits Brazil, Bolivia, and northern Argentina.]

178. *Falco peregrinus anatum* Bonaparte

Falco anatum Bonaparte, Geog. and Comp. List Birds Eur. and N. America, p. 4, 1838—based on *Falco peregrinus* Wilson, Amer. Orn., 9, p. 120, pl. 76, 1814, Egg Harbor, New Jersey; Fraser (1), p. 109—Chile.

Falco peregrinus Des Murs (2), p. 224—Chile (part); (?) Boeck, p. 498—Valdivia.

Falco nigriceps Cassin, p. 176, pl. 14—Chile (spec. in U. S. National Museum examined).

Falco communis Pelzeln (2), p. 8—Santiago (spec. in Vienna Museum examined).

Falco peregrinus Sclater (2), 1867, pp. 330, 338—Chile (crit.); Philippi (12), p. 244—Chile (part); Albert (1), 108, p. 284—Chile (part); (?) Barros (4), p. 49—Nilahue, Curicó; (?) Housse (2), p. 142—San Bernardo, Santiago; idem (3), p. 226—Isla La Mocha (February); (?) Jaffuel and Pirion, p. 104—Marga-Marga Valley, Prov. Valparaiso.

(?) *Falco peregrinus* [sic] *cassini* Barros (5), p. 176—Los Andes, Aconcagua (November).

"*Falco peregrinus prope anatum*" Kleinschmidt, Berajah, *Falco Peregrinus*, p. 112, 1927—Valdivia (crit.).

Range in Chile.—Winter visitor from North America. Recorded from Aconcagua (November), Santiago, Isla La Mocha (February), Cautin (March), and Valdivia.

Material examined.—Santiago: Santiago, ♂ ad., ♀ ad. Zelebor. "Novara" Expedition (Vienna Museum).—Cautin: Ranco, Temuco, ♂ ad., March 15, 1913. A. C. Saldaña (Museum of Comparative Zoology, Cambridge, Mass.).—"Chile" (unspecified): ♂ ad. J. M. Gilliss. U. S. N. Astron. Expedition (U. S. National Museum).

¹Sclater and Salvin, *Ibis*, 1868, p. 188.

²Oustalet, *Miss. Sci. Cap Horn*, 6, *Zool.*, Ois., p. 21, 1891.

³*Anal. Mus. Nac. Hist. Nat. Buenos Aires*, 8, p. 355, 1902.

⁴Wetmore, *Univ. Calif. Pub. Zool.*, 24, p. 423, 1926.

No Peregrine Falcon breeds in Chile proper, but as both the North American Duckhawk and Cassin's Falcon, which nests on the Falkland Islands and along the Straits of Magellan, visit that country in the course of their winter migrations, individuals of the "Gavilan" may be encountered there throughout the year. As local ornithologists do not discriminate between the two forms, it is impossible to properly allocate any bibliographical reference without examining the particular specimen upon which it was based.

The two specimens from Santiago obtained by the "Novara" Expedition and the male from Ranco, adult birds in fresh plumage, are doubtless migrants from the north, and agree with North American examples in having a broad whitish frontal band, the auriculars mostly whitish or buffy, and the under parts whitish, more or less tinged with pinkish on the breast and narrowly banded with black laterally. The Ranco bird is remarkably pale neutral gray above, though certain specimens from the United States come very close.

The bird figured by Cassin as *F. nigriceps* in the Report of the U. S. N. Astronomical Expedition is much deeper pinkish on chest and breast; the entire sides of the head including the malar region are uniform black like the head, and this color also spreads over the anterior mantle. Similar individuals occur also in North America, and Field Museum has one from the Kissimmee River, Florida. This specimen, in coloration, is an exact match of the bird figured by Cassin.

The four Chilean specimens are all rather smaller, the bill particularly so, than duckhawks from eastern North America. Kleinschmidt also mentions a young male from Valdivia in the Berlepsch Collection, which, together with breeding birds from Mexico and Texas (Cameron), he is inclined to separate from *F. p. anatum* on account of lesser dimensions.

Cassin's term *F. nigriceps*¹ would seem to be the earliest available name² for this supposed western race, if it should prove to be separable. In Chile it is certainly but a winter visitant.

¹It was first introduced into literature in the "Illustrations of the Birds of California, Texas," etc., 1853, p. 87, where Cassin refers to specimens from Bear Creek, California (E. M. Kern), the coast of Lower California (Hermann), and Chile (Lieut. Gilliss). While it is not quite evident from the text which of the specimens formed the principal basis of Cassin's description, Stone (Proc. Ac. Nat. Sci. Phila., 1899, p. 29) claims the one from Bear Creek to be the type of *F. nigriceps*.

²*Falco communis americanus* [sic] Schlegel (Abhandl. Geb. Zool. Vergl. Anat., Heft 3, p. 19, 1844) is merely a substitute for *F. anatum* Bonaparte.

MEASUREMENTS OF ADULTS

| | Wing | Tail | Bill ¹ |
|-------------------------------------|------|------|--------------------------------|
| One male from Santiago | 290 | 140 | 22 |
| One female from Santiago | 335 | 170 | 24 ¹ / ₂ |
| One male from Ranco, Cautin | 305 | 157 | 22 |
| One male from Chile (J. M. Gilliss) | 288 | 150 | 22 |

¹ Measured with chord from anterior margin of cere to tip.

179. *Falco peregrinus cassini* Sharpe

Falco cassini Sharpe, Ann. Mag. Nat. Hist., (4), 11, p. 221, 1873—Chile and Magellan Straits (spec. in British Museum examined).

Falco peregrinus Des Murs (2), p. 224—Chile (part).

Falco peregrinus Philippi (12), p. 244—Chile (part); E. Reed (2), p. 558—Chile (spec. in Brit. Museum examined); idem (4), p. 206—Chile; Albert (1), 108, p. 284—Chile (part); Bullock (4), p. 198—Angol, Malleco (July).

"*Falco Peregrinus cassini*" Kleinschmidt, Berajah, *Falco Peregrinus*, p. 116, 1927—Straits of Magellan and Collico (near Valdivia), Chile (crit.).

Range in Chile.—Winter visitor from the south. Recorded from Santiago (May), Cautin (July), and Valdivia (April).

Material examined.—Santiago: Santiago, ♂ juv., May, 1869. R. A. Philippi (Museum of Comparative Zoology, Cambridge, Mass.).—Cautin: Pelal, Temuco, ♀ juv., July 29, 1912. A. C. Saldaña (Museum of Comparative Zoology, Cambridge).—"Chile" (unspecified): ♀ ad., ♂ juv. E. C. Reed (British Museum).

These four specimens I cannot but refer to *F. p. cassini*, of which I have examined a good series, including several breeding birds, from Tierra del Fuego and the Falkland Islands.

The only adult Chilean bird—collected by Edwyn Reed in 1870 (exact locality not stated)—agrees in every particular, notably in the extremely wide black barring above, the bright pinkish cinnamon chest, and the broadly barred posterior under parts, with females from the southern extremity of South America. The young female from Pelal, Temuco, merely differs from two Falkland Island birds in similar stage by having the foreneck and chest decidedly paler, pinkish buff rather than tawny. Two other birds in juvenile plumage, one from Santiago, the other from an unspecified locality in Chile, while not extremely dark below, are much nearer to *cassini* than to any young North American duckhawk I have seen.

Mr. Bullock, when shown specimens of the North American and Magellanic duckhawks, unhesitatingly declared that the single bird he had shot in July at Angol, Malleco, was of the latter form.

In adult plumage *F. p. cassini* may be distinguished from *F. p. anatum* by much more densely and broadly barred under parts;

darker gray back with wider black bars; entirely black sides of the head without any whitish in the auricular region; and by lacking the buffy white frontal band. The under parts are strongly washed with mouse-gray in the male, and much more cinnamomeous in the female. The juvenile plumage is not unlike that of its northern ally, but lacks the buffy frontal band, the buffy edges to the pileum, and the extensive buffy auricular patch, while the buff or ochraceous nuchal band is merely suggested by a few deep tawny edges to some of the feathers. Besides, the under parts are much darker, tawny or Mikado brown, instead of buff or ochraceous, and much more heavily marked with dark brown.

F. p. cassini is apparently a rather uncommon visitor to central and southern Chile during the Antarctic winter (April to September). Kleinschmidt records an adult male taken by Landbeck on April 16, 1856, at Collico, near Valdivia.

MEASUREMENTS OF ADULTS

| | Wing | Tail |
|---|-------|----------|
| One male from Port Stanley, Falkland Islands (Dec.) | 292 | 165 |
| One male from Falkland Islands | 300 | 147 |
| One male from Straits of Magellan (type) | 303 | 148 |
| One female from Port Stanley (Dec.) | 338 | 174 |
| One female from Falkland Islands | 345 | 170 |
| Two females from Tierra del Fuego ¹ | 340,— | 175, 180 |
| One female from "Chile" | 325 | 175 |

¹Taken by P. W. Reynolds at Estancia Viamonte Rio Grande on April 7, 1927, and Cape Peñas on March 24, 1929, respectively. Both are in the British Museum.

180. *Falco fusco-coerulescens fusco-coerulescens* Vieillot

Falco fusco-coerulescens Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 4, p. 454, 1816 - based on Azara, No. 32, Paraguay and Rio de La Plata; Sclater (6), 1891, p. 135 Vilugo, Tarapacá; E. Reed (4), p. 206—Chile (not common); Lane, p. 180 Vilugo (two days south of Sacaya), Tarapacá; Albert (1), 108, p. 287 Chile (descr., habits); Barros (10), p. 358—Cordillera of Aconcagua.

Falco femoralis Fraser (1), p. 109 Chile (habits); Philippi (12), p. 244—Santiago and the whole of Chile, rare in the south.

Harpagus bidentatus (error) Des Murs (2), p. 230—Chile (habits).

Hypotriorchis femoralis Cassin, p. 177—Chile; Pelzeln (2), p. 8—Chile; Sclater (2), 1867, pp. 330, 338—Chile.

Hypotriorchis fusco-coerulescens Barros (4), p. 48—Nilahue, Curicó; Housse (3), p. 226—Isla La Mocha, Arauco; Jaffuel and Pirion, p. 104—Marga-Marga Valley, Valparaiso.

Range in Chile.—From Tarapacá south to the Straits of Magellan.

Material collected.—Coquimbo: Baños del Toro (alt. 10,600 feet),

♂ ad., Nov. 15, 1923.

The Orange-chested Hobby is stated to be rather uncommon in Chile, only a few scattered localities being on record. In the southern provinces it seems to be even rarer, Crawshaw¹ being apparently the first naturalist to take it in Tierra del Fuego. Ambrose Lane shot a single bird at Vilugo, Tarapacá, but was told that these falcons visit Sacaya frequently at certain times and occur at elevations up to 11,000 feet. Barros observed the "Halcon" in the Cordilleras of Aconcagua, and lists it as a rare resident for the Nilahue Valley, Curicó. According to Jaffuel and Pirion, it breeds in Marga-Marga, Valparaiso.

F. f. fusco-coerulescens is widely distributed in South America.

181. *Cerchneis sparveria cinnamomina* (Swainson)

Falco cinnamominus Swainson, Anim. Menag., p. 281, Dec. 31, 1837—Chile (type in Liverpool Museum); Des Murs (2), p. 226—Valparaiso.

Falco sparverius (not of Linnaeus) d'Orbigny, p. 119—Chile; Des Murs (2), p. 227—the whole of Chile; Boeck, p. 498—Valdivia; Germain, p. 309—Santiago (breeding habits); Frauenfeld, p. 636—road from Valparaiso to Santiago; Philippi (12), p. 244—part, Santiago, Valdivia; E. Reed (2), p. 558—Cauquenes, Colchagua; Lataste (1), p. CXIV—Bureo (Chillan), Ñuble; l. c., p. CXV—Ñinhue (Itata), Maule; idem (2), p. XXXIII—Caillihue (Vichuquen), Curicó; idem (5), p. LXI—San Carlos, Maule; Waugh and Lataste (1), p. LXXXIII—Peñaflor, Santiago; idem (2), p. CLXIX—San Alfonso, Valparaiso; Housse (2), p. 142—San Bernardo, Santiago.

Tinnunculus sparverius Fraser (1), p. 109—Chile; Hartlaub (3), p. 209—Valdivia; Cassin, p. 176—Chile; Pelzeln (2), p. 8—Chile; Sclater (2), 1867, pp. 330, 338—Chile; Sclater and Salvin, Ibis, 1870, p. 499—Coquimbo; Housse (3), p. 226—Isla La Mocha, Arauco; Jaffuel and Pirion, p. 103—Marga-Marga Valley, Valparaiso.

Cerchneis cinnamomina Sharpe, p. 10—Coquimbo.

Tinnunculus cinnamominus Salvin (2), p. 427—Chile; E. Reed (4), p. 206—part, Chile; Lane, p. 180—Arauco, Rio Bueno (Valdivia), and Llanquihue; Albert (1), 108, p. 290—Chile (monog.); Bullock (3), p. 127—Nahuelbuta, Malleco; idem (4), p. 198—Angol, Malleco.

Cerchneis sparveria cinnamomina Schallow (2), p. 694—Santiago; Barros (4), p. 49—Ñilahue, Curicó; idem (5), p. 176—Cordillera of Aconcagua; Passler (3), p. 448—Coronel; C. Reed (4), p. 189—Curacautin (food); Barros (10), p. 358—Cordillera of Aconcagua.

Cerchneis sparverius cinnamominus Chapman, Bull. Amer. Mus. N. H., 34, p. 378, 1915—Corral, Santiago, Valdivia, Ancud (crit.).

Range in Chile.—From Atacama to the Straits of Magellan.

¹Birds of Tierra del Fuego, p. 17, 1907.

Material collected. Atacama: Caldera, ♂ ad., June 25, 1924. E. Gigoux; Ramadilla, Copiapó Valley, ♀ ad., Aug. 25.—Coquimbo: Romero, two ♀ ♀ ad., July 11, 27.—Santiago: Volcan de Maipo (alt. 4,600 feet), ♀ ad., Dec. 20.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ ad., Feb. 20.—Valdivia: Ríñihue, ♂ ad., March 4; Máfil, ♂ ad., ♂ imm., ♀ ad., Feb. 14, 20, 28.—Llanquihue: Puerto Montt, ♂ ad., April 15; Casa de Richards, Rio Ñirehuau, ♂ ad., March 1.

Birds from the north (Atacama, Coquimbo) appear to be similar to those from more southern localities.

The Chilean Kestrel is generally distributed over the whole country excepting the extreme north. According to Rafael Barros, its altitudinal range extends up to 7,000 and 10,000 feet. Outside of Chile, this form inhabits Tierra del Fuego and Patagonia north to the Rio Negro.

On Mas A Tierra it is replaced by *C. s. fernandensis* Chapman.

182. *Cerchneis sparveria peruviana* Cory

Cerchneis sparverius peruviana Cory, Field Mus. Nat. Hist., Orn. Ser., 1, No. 8, p. 296, 1915—Chachapoyas, Peru.

Range in Chile.—Extreme northern section, in province of Tacna.

Material collected.—Tacna: Chacalluta, six miles north of Arica, ♀ ad., June 14, 1924.

In comparison to the females of *C. s. cinnamomina*, this bird is much brighter rufous above and has more white on the forehead. It agrees in both respects with a series from Peru, and should doubtless be referred to *C. s. peruviana*, although it has a duller, less rufous tail, probably an individual character.

This is another of the many instances where the Peruvian form extends into Tacna, while the remainder of Chile is tenanted by a different race.

[*Spiziapteryx circumcinctus* (Kaup), though supposed to have been sent by T. Bridges from "Chile," is now known to inhabit exclusively certain parts of northern Argentina.]

183. *Elanus leucurus leucurus* (Vieillot)

Milvus leucurus Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 20, p. 563 (erroneo 556), 1818—based on Azara, No. 36, near San Ignazio, Santa Rosa, and Bobi, also on the banks of the Paraguay between Neembucu and Remolinos, etc., Paraguay; d'Orbigny, p. 98—not rare in Chile.

Elanus dispar Fraser (1), p. 109—Chile; Des Murs (2), p. 233, pl. 2—Chile; Philippi (12), p. 245—central provinces rare in the south; Waugh and Lataste (1), p. LXXXIV—Peñaflo, Santiago; Housse (2), p. 142—San Bernardo, Santiago; Lataste (9), p. 167—Malleco.

Elanus leucurus Cassin, p. 175—Chile; Pelzeln (2), p. 8—Chile; Sclater (2), 1867, pp. 330, 338—vicinity of Santiago; E. Reed (2), p. 559—Cauquenes, Colchagua; idem (4), p. 206—Chile (not common); Lane, p. 181—Laraquete, Arauco; Albert (1), 108, p. 294—Chile (monog.); Housse (1), p. 48—Isla La Mocha, Arauco; C. Reed (4), p. 190—Cerro de Quillota, Teno, Rengo, Camarico, Machali, Curacautin, Casa Blanca, Malleco, La Ligua, Cordillera de Maule (food); Jaffuel and Pirion, p. 103—Marga-Marga, Valparaíso; Bullock (4), p. 198—Angol, Malleco (winter).

Falco fusco-caculescens (lapsu) Barros (4), p. 48—Nilahue, Curicó.

Range in Chile.—Central and southern provinces, from Santiago to Cautin.

Material collected.—Valparaíso: Casa Blanca, ♂ imm., July 31, 1923.—Colchagua: Rengo, ♂ juv., July 2, 1923.—Talca: Camarico, ♀ juv., July 6, 1923. Carlos S. Reed.

The White-tailed Kite, widely diffused in South America, is said to be common in the plains, but rather rare in the Cordilleras of central Chile. It appears to be absent from the southern provinces.

184. *Milvago chimango chimango* (Vieillot)

Polyborus chimango Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 260, 1816—based on Azara, No. 5, rare in Paraguay, but common on the La Plata River; d'Orbigny, p. 60—"côte du Chile"—Valparaíso; Philippi, Reise Wüste Atacama, p. 161—Quebrada de La Encantada, Atacama; idem, Ornith., 4, p. 158—Quebrada de La Encantada.

Aquila pezopora Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 62, pl. 16, 1834—plains of Mapocho, particularly in the vicinity of Santiago.

Milvago pezoporos Fraser (1), p. 109—Chile [=Colchagua]; Yarrell, p. 52—Chile (egg descr.).

Caracara chimango Des Murs (2), p. 211—part, northern Chile; Philippi (12), p. 243—Chile (in part); Lataste (1), p. CXIV—Bureo (Chillan), Ñuble; p. CXV—Ninhue (Itata), Maule; idem (5), p. LX—Itata, Maule; Waugh and Lataste (1), p. LXXXIII—Peñaflo, Santiago; idem (2), p. CLXIX—San Alfonso (Quillota), Valparaíso.

Milvago chimango Peale, p. 61—Chile; Bibra, p. 128—road from Valparaíso to Santiago; Cassin, p. 174—Chile; Germain, p. 309—Santiago (breeding habits); Pelzeln (2), p. 6—Chile; Sclater (2), 1867, pp. 329, 338—Chile (in part); E. Reed (2), p. 559—Cauquenes, Colchagua; idem (4), p. 206—Chile (in part); Lane, p. 181—part, southern Chile and Chiloé; Albert (1), 108, p. 296—in part; Barros (4), p. 48—Nilahue, Curicó; idem (5), p. 175—Precordillera of Aconcagua; Housse (2), p. 142—San Bernardo, Santiago; Jaffuel and Pirion, p. 103—Marga-Marga Valley, Valparaíso.

Ibycter chimango Sharpe, p. 10—part, Talcaguano; Schalow (2), p. 693—Coquimbo, La Serena, and Santiago.

Milvago chimango chimango Passler (3), p. 448—Coronel (breeding habits); Wetmore (3), p. 92—Conceon, Valparaíso.

Range in Chile.—From Atacama to Concepción.

Material collected. Concepción: Hacienda Gualpencillo, two ♂♂ ad., March 31, April 6, 1923.

Additional specimens.—Santiago: Hacienda Mansel, near Santiago, one (unsexed) adult, Dec. 20, 1889. A. A. Lane; Santiago, ♂ ad. F. Leybold.—Concepción: Talcaguano, ♂ ad., Sept., 1879. Coppinger.—“Central Chile:” five adults. H. Berkeley James Collection (all in the British Museum).

The two specimens from Gualpencillo as well as one from Talcaguano in the British Museum agree in every particular with a series from central Chile. So far as I can see they are inseparable from Uruguayan and Argentine skins, which may be taken to represent typical *chimango*.

The “Tiuque” is reported to be very common in the plains and foothills of central Chile, but appears to be absent from the mountains. In the north it stretches into Atacama, specimens having been taken by R. A. Philippi in the Quebrada de La Encantada, northeast of Copiapó, and ranges southwards as far as Concepción.

185. *Milvago chimango temucoensis* W. L. Sclater

Milvago chimango temucoensis W. L. Sclater, Bull. Brit. Orn. Cl., 38, p. 43, March 4, 1918—Pelal, near Temuco, Cautin, Chile (type in British Museum examined); Laubmann, Wiss. Erg. Deuts. Chaco Exp., Vogel, p. 94, 1930—Fundo Esmeralda, Osorno, Llanquihue (crit.).

Milvago chimango (not of Vieillot) Darwin, p. 14—part, Chiloé Island; Hartlaub (3), p. 209—Valdivia; Roeck, p. 496—Chiloé; Sclater (2), 1867, pp. 329, 338—Chile (in part); Sclater and Salvin, Ibis, 1868, p. 187—Sandy-Point; idem (3), 1878, p. 435—Puerto Bueno and Sandy-Point; Ridgway (2), p. 136—Laredo Bay, Magellan Straits; E. Reed (2), p. 206—Chile (in part); Lane, p. 181—part, central Chile; Albert (1), 108, p. 296—in part; Bullock (3), p. 126—Nahuelbuta, Malleco; idem (4), p. 195—Angol, Malleco.

Polyborus chimango Tschudi, p. 6—Bay of San Carlos [=Ancud], Chiloé.

Caracara chimango Des Murs (2), p. 211—part, southern Chile to Straits of Magellan; Philippi (12), p. 243—Chile (in part).

Ibycter chimango Sharpe, p. 10—part, Cockle Cove.

Range in Chile.—From Concepción south to the Straits of Magellan.

Material collected.—Concepción: Concepción, adult, June 28, 1903. C. S. Reed.—Malleco: Curacautin, ♂ ad., Jan. 14.—Chiloé Island: Rio Inio, ♂ ad., Jan. 15; Quellon, ♀ juv., Jan. 27, 1923.

Additional specimens.—Arauco: Maquegua, ♀ ad., July 15, 1890. A. A. Lane.—Cautin: Maquehue, Temuco, ♂ ad., three ♀ ♀ ad., April 23, Aug. 17, 24, Sept. 21. D. S. Bullock and A. C. Saldaña; Pelal, Temuco, ♀ ad., Nov. 18, 1909. A. C. Saldaña.—Valdivia: Corral, ♀ ad., Oct. 19, 1890. A. A. Lane (all in the British Museum).

This southern race of the "Tiuque" may be recognized by its richer, more saturated coloration, the brown of the back being darker, and the chest of a deeper rufescent brown, while the transverse barring underneath is much more strongly marked and extends down to the tibial feathers. In typical *chimango*, the upper parts are duller brown with a grayish cast, the chest is much paler and less rufous, and the barring on the lower breast and sides paler and not so regular. The series from Temuco in the British Museum is very uniform and shows but little variation. A single adult from Valdivia (Corral), one from Chiloé Island, and six from various localities in the Straits of Magellan are precisely similar. Birds from Arauco (Maquegua) and Malleco (Curacautin) are likewise typical of this form, to which I must also refer a specimen taken by C. S. Reed at Concepción. Other specimens of this hawk secured by Sanborn in this vicinity are, however, unquestionably referable to *M. c. chimango*. I expect that further material will show the two races to intergrade in the region around Concepción.

186. *Phalcoboenus megalopterus* (Meyen)

Aquila megaloptera Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 64, pl. 17, 1834—Chile, in the highest Cordilleras near the edge of the perpetual snow (descr. of juvenile plumage).

Phalcoboenus montanus d'Orbigny,¹ Voy. Amér. Mérid., Ois., p. 51, pl. 2, figs. 1, 2, 1834-35—road from Tacna to La Paz, Cordilleras and plateaus of Bolivia (descr. of adult and young); Fraser (1), p. 108—valleys of the Andes [of Colchagua] at 5,000 to 8,000 feet elevation.

Milvago megalopterus Darwin, p. 21—Despoblado, a branch of the Copiapó Valley, Atacama; Fraser (2), p. 157—[Colchagua] Chile; Sclater (2), 1867, pp. 329, 338—Cordillera of Santiago (crit.); E. Reed (2), p. 559—Cordillera of Colchagua; Sclater (4), 1886, p. 399—Sitani, Tarapacá; idem (6), 1891, p. 135—Sacaya, Tarapacá; Lane, p. 182—Sacaya and

¹The plate was issued with livr. 2 in 1834, and it is quite possible that *P. montanus* has priority over *A. megaloptera* published in the same year.

Cancosa, Tarapacá; E. Reed (4), p. 206—Cordilleras of central Chile; Albert (1), 108, p. 296—Chile (monog.).

Caracara montanus Des Murs (2), p. 210—Prov. Santiago (habits); Philippi (12), p. 242—Cordilleras of Santiago and Atacama.

Polyborus montanus Philippi, Reise Wüste Atacama, p. 161—Desert of Atacama, from the Cordillera down to the coast; idem, Ornith., 4, p. 158—Antofagasta.

Milvago crassirostris Pelzeln, Sitzungsber. Ak. Wiss. Wien, math.-naturw. Kl., 44, (1), p. 9, 1861—Chile (descr. of adult; type in Vienna Museum examined); idem, Vog. Novara, p. 3, pl. 1, 1865—Chile (crit., juv.).

Phalcobocnus megalopterus [sic] Barros (5), p. 175—Cordillera of Aconcagua.

Range in Chile.—Cordilleras from Tacna to Colchagua.

Material examined.—Tarapacá: Sitani, ♂ ad., Jan. 15, 1886. C. Rahmer; Sacaya, ♀ ad., April 22, 1890. A. A. Lane; Cancosa, juv., Jan. 28, 1890. A. A. Lane (all in the British Museum).—Central Chile: three adults, three in transitional plumage, and two juv. "Novara" Expedition, Zelebor and Segeth.—"Chile:" adult, type of *M. crassirostris* Pelzeln (all in the Vienna Museum).

I am unable to discover any constant difference between birds from central Chile (*megalopterus*, *crassirostris*), Tarapacá, and Bolivia (*montanus*). When in adult plumage, all have along the scapular edge of the wing a distinct white stripe, which Pelzeln erroneously thought was absent in the Peruvian bird. As to the shape of the bill, I find much individual variation, and do not see how this character can be used for distinguishing two races. The adult bird from Peru in the Vienna Museum has a remarkably slender, compressed bill, but this divergence is not corroborated by other material from that country.

The altitudinal range of *P. megalopterus* varies according to latitude. While in Peru and Bolivia almost—if not wholly—confined to the Puna Zone, viz. to elevations of 10,000 feet and upwards, we find it in Chile descending to much lower altitudes, its habitat in the provinces of Aconcagua, Santiago, and Colchagua being given as reaching down to 5,000 feet. Philippi, furthermore, states that in the desert of Atacama it may be seen even near the seacoast.

Its geographical distribution evidently does not extend much beyond Colchagua, which is the most southerly Chilean locality on record. In Argentina it is restricted to the northwestern provinces of Tucumán, Salta, and Jujuy. Its reported occurrence in Patagonia and Tierra del Fuego is doubtless due to the misidentification of young specimens of the nearly allied *P. albogularis* (Gould), which,

as correctly pointed out by Wetmore,¹ in the brown juvenile plumage is exceedingly similar to the corresponding stage of *P. megalopterus*. The specimens collected by the members of the Princeton University Expedition on the Rio Gallegos and at Arroyo Eke, at the headwaters of the Rio Descado in Patagonia, and listed by Stone² as *I. megalopterus* are clearly referable to *P. albogularis*, of which adult birds were secured in the same localities, and whose range has since been traced by Wetmore¹ and Peters³ as far north as the Gobernación del Rio Negro.

I expect that a better knowledge of their characters and distribution will show *P. carunculatus*, *P. megalopterus*, and *P. albogularis* (of which *I. circumcinctus* Scott appears to be an individual variant) to be representatives of one "formenkreis."

187. *Polyborus plancus plancus* (Miller)

Falco plancus Miller, Var. Subj. Nat. Hist., Part 3, pl. 17, 1777—Tierra del Fuego.

Falco tharus Molina, Saggio Stor. Nat. Chile, pp. 264, 343, 1782—Chile; Poeppig (2), p. 281—Rio Colorado, Santiago.

Aquila cheriway (not of Jacquin) Meyen, p. 66—east of Copiapó, Chile.

Polyborus vulgaris d'Orhigny, p. 55—"mountainous" and wooded parts of Chile; Boeck, p. 496—"Aemd" [=Ancud] and Laguna of "Clanquihue" [=Llanquihue].

Polyborus brasiliensis (not of Gmelin) Fraser (1), p. 108—Chile (habits); Yarrell, p. 52—Chile (egg descr.); Hartlaub (3), p. 108—Valdivia; Pelzeln (2), p. 6—Chile.

Polyborus brasiliensis Peale, p. 60—Chile.

Caracara vulgaris Des Murs (2), p. 207, pl. 1—the whole of Chile (habits); Philippi (12), p. 242—Chile; Lataste (1), p. CXIV—Bureo (Chillan), Ñuble; Waugh and Lataste (1), p. LXXXIV—Peñaflores, Santiago; Housse (2), p. 142—San Bernardo, Santiago.

Polyborus tharus Cassin, p. 173—central and southern Chile; Germain, p. 309—Santiago (nesting habits); Selater (2), 1867, pp. 329, 338—Chile; Selater and Salvin, Ibis, 1870, p. 499—Island of Quehui, Chiloé; E. Reed (2), p. 559—Cauquenes, Colchagua; idem (4), p. 206—Chile; Lane, p. 183—Rio Bueno, Valdivia (habits); Schalow (2), p. 692—Puerto Rosales, Llanquihue; Albert (1), 108, p. 303—Chile (monog.); Jaffuel and Pirion, p. 103—Marga-Marga, Valparaíso; Bullock (3), p. 126—Nahuelbuta, Malleco; idem (4), p. 195—Angol, Malleco.

Polyborus plancus Barros (4), p. 48—Ñilhue, Curicó.

¹ Univ. Calif. Pub. Zool., 24, p. 420, 1926.

² Rep. Princeton Univ. Exp., 2, (2), Part 4, p. 566, 1915.

³ Bull. Mus. Comp. Zool., 65, p. 304, 1922.

Range in Chile. — From Copiapó to the Straits of Magellan, rare in the north.

Material collected.—Valparaiso: Hacienda Limache, ♀ ad., ♂ juv., Dec. 9, 15. J. A. Wolffsohn.—Guaitecas Islands: Melinka, Ascension Island, ♀ ad., Jan. 31.

The "Traro" is reported as very common in southern Chile down to the Straits of Magellan. In the central provinces it exists only in limited numbers, increasing southwards and becoming plentiful about Valdivia and on the Laguna of Llanquihue. Meyen claims to have shot his specimens in March east of Copiapó, which is much farther to the north than any other recorded locality. The bird is rather uncommon in the provinces of Valparaiso and Santiago, and even in Curicó Barros found it somewhat scarce.

The "Traro" frequents the plains and low hills, and it is certainly by mistake that Albert gives its altitudinal range as extending up to an elevation of 4,000 meters.

Besides in Chile, it also occurs in Tierra del Fuego, Patagonia, and in part of Argentina, while closely allied races are found in the more northern section of South America.

188. *Pandion haliaëtus carolinensis* (Gmelin)

Falco carolinensis Gmelin, Syst. Nat., 1, (1), p. 263, 1788—based on Brisson, Buffon, and Catesby; restricted type locality Carolina (ex Catesby).

Pandion haliaëtus (not of Linnaeus) Philippi (24), p. 4—"Peine" [=Paine], south of Santiago.

Range in Chile.—Occasional straggler (one record).

Philippi lists a single specimen shot at Paine, Prov. O'Higgins, as being in the collection of the Museo Nacional, Santiago.

189. *Cathartes aura jota* (Molina)

Vultur¹ jota Molina, Saggio Stor. Nat. Chile, pp. 265, 343, 1782—Chile.²

Vultur aura (not of Linnaeus) Poeppig (2), p. 281—Rio Colorado, Santiago.

Cathartes aura d'Orbigny, p. 38—Pacific coast from Chiloé northwards; Darwin, p. 8—Chile; Des Murs (2), p. 202—from Copiapó to Chiloé; Boeck, p. 495—"Aemd" [=Ancud], Chiloé Island; Pelzeln (2), p. 3—Chile; Selater (2), 1867, pp. 328, 338—Chile; Philippi (12), p. 242—common along the coast; E. Reed (2), p. 559—Hacienda de Cauquenes, Colchagua (not common); idem (4), p. 206—Chile; Lataste (1), p. CXV—Bureo (Chillan), Ñuble, and Ninhue (Itata), Maule; Waugh and Lataste

¹ Misprinted "*Vulcur*" on p. 265.

² Swann (Syn. Accip., 2nd ed., p. 4, 1921) suggests Concepción as type locality.

(1), p. LXXXIV -Peñaflor, Santiago; Lane, p. 184 Corral (Valdivia), and Tarapacá; Schalow (2), p. 691 -Iquique, Tarapacá; Albert (1), 101, p. 507—Chile (monog.); Blaauw (1), p. 24—range in Chile; Housse (2), p. 141—San Bernardo, Santiago; Bullock (3), p. 126 Nahuelbuta, Malleco; idem (4), p. 195 Angol, Malleco.

Cathartes jota Fraser (1), p. 108—abundant along the coast of Chile, also in the interior; Yarrell, p. 52 Chile (egg descr.); Cassin, p. 172—common along the seacoast of Chile.

Cathartes aura aura Barros (4), p. 47—Ñilahué, Curicó; idem (5), p. 175—Precordillera of Aconcagua (Los Andes); Housse (1), p. 48—Isla La Mocha, Arauco.

Cathartes aura jota Passler (3), p. 448—Coronel (breeding habits).

Cathartes aura jota Wetmore (3), p. 91—Concón, Valparaíso.

Rhinogryphus aura Jaffuel and Pirion, p. 102 Marga-Marga, Valparaíso.

Range in Chile.—From Tarapacá to the Straits of Magellan.

Material collected.—Valparaíso: Palmilla, La Cruz, ♀ imm., Jan. 9, 1925. J. A. Wolffsohn.

Birds from the Straits of Magellan that we have seen appear to be similar to those from central Chile. *C. a. jota*, as pointed out by Wetmore,¹ is very similar to *C. a. ruficollis*, the Turkey Vulture of eastern South America, but may be distinguished by its larger size. Whether the Falkland Island race, *C. a. falklandica* (Sharpe), can be maintained, I am unable to decide owing to lack of material.

C. a. jota is said to be common in the northern parts of Chile, from Tarapacá to Valparaíso. Farther south it decreases in numbers, although it is sparingly found all throughout Chile to the Straits of Magellan. According to various observers, the "Jote" keeps to the plains and the pre-Cordillera, and hardly ever occurs above 5,000 feet of elevation.

190. *Coragyps atratus*² *foetens* (Lichtenstein)

Cathartes foetens Lichtenstein, Verz. Ausgest. Saug. und Vogel, p. 30, 1818—based on Azara's "Iribú," Paraguay; Pelzeln (2), p. 3—Santiago.

*Cathartes atratus*² (not of Meyer) Fraser (1), p. 108—occasionally in the province of Colchagua; Bibra, p. 128—Santiago and northwards; Cassin, p. 173—rare in Chile; Sclater (2), 1867, pp. 328, 338—Colchagua (ex Fraser); E. Reed (2), p. 559—Cauquenes, Colchagua; idem (4), p. 206—

¹Bull. U. S. Nat. Mus., 133, p. 90, 1926.

²About the use of the specific name proposed in a binomial sense by F. A. A. Meyer (Zool. Ann., 1, p. 290, 1794) see Peters, Bull. Mus. Comp. Zool., 69, p. 415, 1929. As has been pointed out to me by Dr. Richmond (in litt.), an even earlier reference is *Vultur atratus* Bechstein (Anhang z. 1 sten Bande von Latham's Allg. Uebers. Vogel, p. 655, 1793), likewise based on Bartram's "Black Vulture or Carrion Crow."

Chile; Lane, p. 184—Laraquete (Arauco) and Ancud (Chiloé); Albert (1), 101, p. 510—Chile (monog.); Blaauw (1), p. 24—Osorno, Llanquihue; Bullock (3), p. 126—Cerro de Nahuelbuta, Malleco; idem (4), p. 194—Angol, Malleco.

Cathartes urubu Des Murs (2), p. 200—Coquimbo, Valparaíso, Concepción, and Chiloé; Boeck, p. 494—near Valdivia (in winter); Philippi (12), p. 242—Chile (common).

Catharistes atratus Schalow (2), p. 691—Coquimbo and Calbuco Island, near Puerto Montt.

Catharista urubu Barros (4), p. 47—Ñilahué, Curicó.

Catharista atrata Housse (3), p. 225—Isla La Mocha, Arauco; Jaffuel and Pirion, p. 103—Marga-Marga, Valparaíso.

Coragyps atratus brasiliensis Passler (3), p. 447—Coronel and Corral, Valdivia (habits).

Coragyps urubu fortens Wetmore (3), p. 91—Concon, Valparaíso.

Range in Chile.—From Coquimbo to Chiloé Island.

The "Gallinazo" is stated to be abundant in the southern parts of Chile, but does not occur beyond Chiloé and Llanquihue. In the northern provinces it seems to be rather rare, although there are several records from Colchagua, Valparaíso, Santiago, and even Coquimbo.

191. *Vultur gryphus* Linnaeus

Vultur gryphus Linnaeus, Syst. Nat., 10th ed., 1, p. 86, 1758—based on *Vultur gryps* Klein, Hist. Av. Prodr., 1750, p. 45, Chile; Molina, p. 266—Chile.

Sarcorhamphus magellanicus Sharpe,¹ Cat. B. Brit. Mus., 1, p. 20, 1874—Chile and Straits of Magellan.

Sarcorhamphus gryphus d'Orbigny, p. 17—Arica; Darwin, p. 3—Chile (breeding in the inaccessible parts of the Cordilleras); Fraser (1), p. 108—in all the provinces of Chile, abundant in the elevated valleys of the Andes; Bibra, p. 128—high Cordillera [of Santiago]; Cassin, p. 172—Chile; Pelzeln (2), p. 3—Chile; Sclater (2), 1867, pp. 328, 338—Chile; E. Reed (2), p. 560—Baños de Cauquenes, Colchagua; Philippi, Ornith., 4, p. 153—Tres Puntas, Atacama; E. Reed (4), p. 206—Cordilleras of Chile; Lane, p. 184—Tarapacá; Schalow (2), p. 690—Punta Teatinos, Coquimbo; Albert (1), 101, p. 514—the whole of Chile (monog.); Barros (4), p. 47—Ñilahué, Curicó (now extinct); idem (5), p. 175—Cordillera of Aconcagua; idem (6), p. 32—Parral, Linares; Jaffuel and Pirion, p. 102—Cerro del Valle Marga-Marga, Valparaíso.

Sarcorhamphus condor Des Murs (2), p. 194, pl. (osteology)—the whole of Chile (habits); Boeck, p. 494—near Valdivia; Philippi, Reise Wüste Atacama, p. 161—between Tres Puntas and Copiapó, Atacama, and near

¹This tentatively proposed name is a pure synonym of *Vultur gryphus*, originally based on the Chilean bird.

Paposo, Antofagasta; idem (12), p. 242— from Atacama to the Straits of Magellan.

Range in Chile.— The whole of Chile, from Tarapacá to the Straits of Magellan.

The condor, while locally exterminated, is still plentiful in the less frequented Andean districts. It breeds on inaccessible cliffs in the mountains, but extends its excursions in search of food to the plains and even to the seacoast.

192. *Pelecanus thagus* Molina

Pelecanus thagus Molina,¹ Saggio Stor. Nat. Chile, pp. 240, 344, 1782—Chile; Des Murs (2), p. 494— Chile (ex Molina); Cassin, p. 206 —Chile; Sclater (2), 1867, pp. 336, 340 —Chile (crit.); Nicoll, Ibis, 1904, p. 52—Valparaiso Bay; Passler (1), p. 103—from Coquimbo northward, in winter at Corral, Valdivia.

Pelecanus fuscus (not of Gmelin) Des Murs (2), p. 494—Chile; Boeck, p. 513—Valdivia; Philippi, Reise Wüste Atacama, p. 165 —coast of Atacama; idem, Ornith., 4, p. 160 — Atacama; Albert (1), 103, p. 228 — central provinces.

Pelecanus molinae (G. R. Gray MS.)² Sclater, P. Z. S. Lond., 1868, p. 269— based on *Onocrotalus thagus* Bonaparte, Consp. Av., 2, p. 164, Chile; Pelzeln (2), p. 158—Chile; Albert (1), 103, p. 224 —Chile (monog.); Lane, p. 185—Coronel and Corral, Valdivia; Schalow (2), p. 690—Iquique, Tarapacá; E. Reed (4), p. 206—Bay of Valparaiso.

Pelecanus thygus (sic) Philippi (12), p. 291—coast of Chile and Peru.

Pelecanus nigricollis (Philippi MS.) Albert, Anal. Univ. Chile, 103, p. 226, 1899—Chile (orig. descr.; =juv.).

Pelecanus landbecki F. Philippi, Bol. Mus. Nac. Chile, 1, No. 3, p. 63, 1909—Chile (=juv.); Housse (1), p. 53— Isla la Mocha, Arauco.

Range in Chile.—From the Peruvian boundary south to Valdivia.

The pelican is stated to be fairly common along the coast, in the estuaries of the rivers, and on the islands of Chile. It is less frequent and probably does not breed in the southern parts of the republic. Edwyn Reed tells us that in some years it is seen in large numbers in Valparaiso Bay. Lane and Pässler met with it at Coronel and Corral, Valdivia, during the winter season.

The young bird was described as *P. nigricollis* by Albert, although he correctly recognized that the specimen so designated by Philippi was merely the immature plumage of *P. molinae*. In ignorance of

¹ Molina's description, as usual, is rather poor, but cannot well refer to any other species, this being the only pelican found in Chile.

² *Pelecanus molinae* Gray (List Spec. Bds. Brit. Mus., 3, p. 189, 1844; Genera of Birds, 3, p. 668, 1845) is a nomen nudum. Pelzeln does not give any description either.

Albert's action, F. Philippi (son) created another synonym by describing the very same example as a new species under the name *P. landbecki*.

P. molinae ranges northwards along the coast of Peru to the extreme south of Ecuador. Its plumages and habits have been well described by H. O. Forbes in "Ibis," 1914, pp. 403-420, pl. 13. The Brown Pelican of North America is probably conspecific.

[*Pelecanus erythrorhynchos* Gmelin, listed by Gay (p. 493) s. n. *P. cristatus*, does not occur in Chile. It breeds in North America, migrating in winter south to Mexico and Costa Rica.]

193. *Phaëthon aethereus* Linnaeus

Phaëthon aethereus Linnaeus, Syst. Nat., 10th ed., 1, p. 134, 1758—"in pelago inter tropicos"; Philippi, Reise Wüste Atacama, p. 165—Bay of "Tartal" [= Taltal], Antofagasta; idem (12), p. 290—Taltal; idem, Ornith., 4, p. 160—Taltal; Albert (1), 103, p. 233—Chile.

Phaëthon aethereus Philippi (24), p. 89—Taltal.

Range in Chile.—Accidental visitor. Once recorded from Taltal, Antofagasta.

As recorded by Philippi, a single specimen of the Tropik-bird was shot in 1853 in the Bay of Taltal, southern Antofagasta.

194. *Sula variegata* (Tschudi)

Dysporus variegatus Tschudi, Arch. Naturg., 9, (1), p. 390, 1843—"in littoribus et insulis Oceani Pacifici"—islands off Peru (cf. Faun. Peru., Aves, p. 313, 1846).

Sula (?) Fraser (1), p. 120—coast of Chile from the island of Chiloé to Copiapó; Boeck, p. 512—Valdivia.

Sula fusca Des Murs (2), p. 488—Chiloé (excl. descr.); Philippi, Reise Wüste Atacama, p. 165—coast of Atacama; idem, Ornith., 4, p. 160—coast of northern Chile.

- *Sula variegata* Hartlaub (3), p. 219—Corral, Valdivia; Pelzeln (2), p. 156—Chile (crit.); Schläter (2), 1867, pp. 336, 340—Chile; Philippi (12), p. 290—coast of Chile to Peru; E. Reed (4), p. 206—coast of Chile; Lane, p. 185—outside Coquimbo, south to Arauco; Schalow (2), p. 689—Isla dos Pajaros, Coquimbo; Albert (1), 101, p. 929—Chile (monog.); Pässler (1), p. 102—from Coquimbo northward, common at Antofagasta; Housse (1), p. 54—Isla La Mocha, Arauco.

Range in Chile.—Seacoast from the Peruvian boundary to Chiloé Island.

Material collected.—Concepción: Concepción, near coast, one ♂, April 8.

Although the "Piquero" is stated to be very common at times on the coast, no breeding place in Chile has yet been recorded. Lane saw large quantities of these birds outside Coquimbo; he did not notice them south of Arauco, but believes that they occur at Valdivia in summer time, and even farther south. He did not hear of a Chilean breeding-place. Albert at length describes their breeding habits, but it is not evident that the account is based on the author's own observations. Pässler found them at Coquimbo and, northward, very abundant at Antofagasta.

S. variegata, one of the principal "guano" birds, is known to breed on numerous islands off the Peruvian coast.

195. *Phalacrocorax gaimardi* (Lesson and Garnot)

Carbo gaimardi Lesson and Garnot,¹ Voy. Coquille, Zool., Atlas, livr. 7, pl. 48, June 21, 1828—"Lima, au Pérou"—San Lorenzo Island, off Callao (see Gaimard, Voy. Coquille, Zool., 1, (2), livr. 14, p. 602, Jan., 1830); Kittlitz, Denkwurd., 1, p. 133—Valparaiso.

Phalacrocorax gaimardii Fraser (1), p. 119—Valparaiso Bay; Bibra, p. 132—Algodon Bay; Hartlaub (3), p. 219—Corral Bay, Valdivia; Cassin, p. 206—Chile; Selater (2), 1867, p. 340—Chile; Cunningham (2), p. 365—near Chiloé Island; E. Reed (4), p. 207—Chile; Lane, p. 187—Corral, Valdivia; Schalow (2), p. 688—Cavancha and Iquique, Tarapacá, and Tumbes, Concepción; Albert (1), 103, p. 839—from Chiloé northward (monog.); Philippi (23), p. 172—Chiloé and Algarrobo; Passler (1), p. 108—Arica (Tacna), Caleta Buena (Tarapacá), Taltal (Antofagasta); Housse (1), p. 53—Isla La Mocha, Arauco.

Graculus gaimardi Des Murs (2), p. 489—southern Chile; Boeck, p. 513—Valdivia; Philippi, Reise Wüste Atacama, p. 165—between Coquimbo and Caldera, Atacama; Pelzeln (2), pp. 158, 163—Chiloé Island; Philippi (12), p. 290—Chiloé to central provinces; idem, Ornith., 4, p. 160—coast near Caldera, Atacama.

Graculus gamsardii (sic) Germain, p. 315—Chiloé (breeding habits).

Range in Chile.—From the Straits of Magellan north to the Peruvian boundary.

Material collected.—Concepción: coast near Concepción, two ♂♂ ad., April 8.

The Gray Cormorant, called "Lile" by the natives, occurs all along the Chilean coast, but is said to be more common in the central and northern provinces than in the south. Lane found it plentiful off Corral (Valdivia), though not nearly so numerous as *P. o. olivaceus*, and states that it did not come into the harbors or up the rivers, but kept outside a few miles off the land. Pässler found it breeding on the sea-cliffs at various points in Antofagasta, Tarapacá,

¹This name has apparently slight priority over *Phalacrocorax cirriger* King (Zool. Journ., 4, No. 3 [April-July], p. 103, after July, 1828—Straits of Magellan).

and Tacna. According to Germain, it chooses for its nest the crevices of rocks which rise perpendicularly from the sea, at the foot of which the waves dash; the nests are made of marine and decaying plants, and contain three or four eggs in November.

South of Chiloé this species appears to be of rather rare occurrence. Cunningham (Not. Nat. Hist. St. Magellan, p. 365) mentions a single instance of two examples being seen in Mesier Channel. There are, however, several records from southeastern Patagonia (San Julian; Puerto Deseado).¹ In the north the range of *P. gaimardi* extends to the islands off the Peruvian coast.

196. *Phalacrocorax olivaceus olivaceus* (Humboldt)

Pelecanus olivaceus Humboldt, Rec. Obs. Zool. et Anat. Comp., 1, p. 47, 1805—near Banco, Rio Magdalena, Colombia.

Halicus gracilis Meyen,² Nov. Act. Acad. Caes. Leop.-Carol. Nat. Curios., 16, Suppl., p. 113, pl. 23, 1834—San Fernando, Colchagua (=juv.); Philippi (12), p. 323 (crit.).

Phalacrocorax brasiliensis Fraser (1), p. 119—Los Guauros, Valdivia Bay.

Graculus brasiliensis Des Murs (2), p. 490—Chile; Boeck, p. 518—Valdivia; Germain, p. 315—Chile (breeding habits); Philippi (12), p. 291—Chile; Streets, p. 24—Concepción Bay.

Phalacrocorax gracilis Bibra, p. 132—common in all harbors of Chile.

Phalacrocorax brasiliensis Harlaub (3), p. 219—Corral Bay, Valdivia; Cassin, p. 205, pl. 28—Chile; Sclater (2), 1867, pp. 336, 340—Chile; E. Reed (4), p. 206—Corral, Valdivia, and the whole coast of Chile; Lane, p. 136—Laraquete, Arauco, and Corral, Valdivia (habits); Schalow (2), p. 688—Isla dos Pajaros (Coquimbo), Villarrica, and Lago Llanquihue; Albert (1), 103, p. 842, 1899—Chile (monog.); Bullock (4), p. 207—Angol, Malleco.

Graculus brasiliensis Pelzeln (2), p. 158—Chile; Waugh and Lataste (2), p. CLXXIII—San Alfonso (Quillota), Valparaiso; idem (3), p. LX—Peñafior, Santiago.

Phalacrocorax vigua Ridgway (2), p. 138—Port Otway; Passler (1), p. 102—Corral, Valdivia; Housse (1), p. 54—Isla La Mocha, Arauco; Jaffuel and Pirion, p. 114—Marga-Marga, Valparaiso.

Phalacrocorax vigua vigua Barros (4), p. 46—Nilahue, Curicó (visitor); idem (5), p. 174—Rio Aconcagua, Aconcagua.

Range in Chile.—Central and southern provinces, from Aconcagua to the Straits of Magellan.

Material collected.—Guaitecas Islands: Melinka, Ascension Island, ♂ ad. (non-breeding), Feb. 1.

¹Cf. Oustalet, Miss. Sci. Cap Horn, Zool., 6, p. B 156, 1891.

²This reference is erroneously included by Ogilvie-Grant (Cat. B. Brit. Mus., 26, p. 343, 1898) in the synonymy of *Phalacrocorax carbo* (Linnaeus), an Old World species! Stresemann (in litt.) writes that the type is a young individual of *P. olivaceus*.

Although the material at hand is insufficient to make out whether the Black Cormorant of South America is divisible into local races, it appears that the length of the tail alluded to by Ogilvie-Grant as a possible character for the birds of the Pacific coast is of little importance. Their proper name, however, cannot be determined without examining an adequate series from the type locality (Magdalena River, Colombia), whence no specimens are available. *Halieus gracilis* Meyen¹ unquestionably refers to the juvenile plumage of the "Pato Yeco," this being the only species of cormorant found in the interior of Chile.

The "Pato Yeco" is reported as exceedingly common in the central and southern provinces of Chile. T. Bridges, as recorded by Fraser, speaks of a colony of thousands of cormorants near a place called Los Guauros, south of the island of Mansera, in the Bay of Valdivia, where the birds nested on the summits of the loftiest trees. Germain tells us that they choose the rocks on the seacoast or trees which border certain lakes or pools to build their nests, and lay three or four eggs in October and November. While preferring the seacoast, they penetrate up the rivers, so as to be often found almost at the base of the Andes and on comparatively small streams; when on the rivers, they usually occur singly, flying up and allowing themselves to drift downstream while fishing (A. Lane). Edwyn Reed (Anal. Univ. Chile, 49, 1877, p. 560) also met with this species far inland on the Rio Cachapoal and on the Laguna de Cauquenes, C'olchagua. R. Barros noticed it on the Rio Aconcagua, at Los Andes (alt. 3,000 feet), Prov. Aconcagua, and F. Meyen obtained the type of *H. gracilis* in the interior at San Fernando. Albert even claims that this cormorant breeds on the lagoons of the Cordilleras up to an elevation of 2,000 meters and more.

I do not find any record from the arid districts of northern Chile beyond Coquimbo, where L. Plate secured several examples in October, 1893, on the Islas dos Pajaros.

P. o. olivaceus is distributed over the greater part of South America, while a nearly related, smaller race is found in Central America and the southern United States.

¹Philippi (Anal. Univ. Chile, 103, pp. 674-675, 1899) takes great pains in pointing out the distinctness of Meyen's bird from *P. gaimardi*, which is, of course, quite different. I cannot make out *P. promaucanus* Philippi (Anal. Univ. Chile, 103, p. 674, 1899—central provinces; idem, Arch. Naturg., 65, (1), p. 173, 1899; idem, Anal. Mus. Nac. Chile, 15, p. 107, pl. 51, 1902—type stated to be from Matanzas, coast of Colchagua). It is based on a single juvenile specimen, and may be referable to *P. o. olivaceus*.

197. *Phalacrocorax bougainvillii* (Lesson)

Carbo bougainvillii Lesson, Journ. Navig. Thétis et Espérance, 2, p. 331, 1837—Valparaiso.

Carbo albigula Brandt, Bull. Scient. Ac. Sci. St. Pétersb., 3, p. 57, 1837—Chile.

Phalacrocorax ventralis Philippi, Anal. Mus. Nac. Chile, 15, p. 106, pl. 50, 1902—Prov. Santiago (=juv.).

Phalacrocorax albigula Gray, List Spec. Bds. Brit. Mus., 3, p. 187, 1844—Valparaiso; Fraser (2), p. 157—coast of Chile.

Graculus bougainvillii Des Murs (2), p. 491—Valparaiso (ex Lesson); Philippi (12), p. 291—Valparaiso (ex Lesson).

Graculus albigula Des Murs (2), p. 491—Chile (ex Brandt); Philippi (12), p. 291—Chile (ex Brandt).

Phalacrocorax bougainvillii Sclater (2), 1867, pp. 336, 340—Chile (crit.); E. Reed (4), p. 207—Chile; Murphy, Bird Islands of Peru, p. 73—Corral, Valdivia; Barros (8), p. 138—San Felipe and Los Andes, Aconcagua.

Phalacrocorax albigula Albert (1), 103, p. 845—Prov. Santiago, Sept., 1861 (monog., crit.).

(?) *Graculus imperialis* Housse (1), p. 53—Isla La Mocha, Arauco.

Range in Chile.—Recorded from Aconcagua, Valparaiso, Santiago Province, Talcaguano (Concepción), and Corral, Valdivia.¹

Very little is known regarding the occurrence of Bougainville's Cormorant in Chile. It was described from a specimen taken in the Bay of Valparaiso, and two skins from this locality are preserved in the collection of the British Museum. Bridges, according to Fraser, calls it "a very scarce bird, found along the shores of Chile in rocky places." Two young birds, apparently of this species, obtained on the coast of Santiago in September, 1861, are recorded by Albert as being in the Museo Nacional. The very same examples formed the basis of Philippi's alleged new species named and figured as *P. ventralis*. Barros reports that in the first days of May, 1925, after a strong gale, many specimens were seen at San Felipe and Los Andes, Prov. Aconcagua. Murphy (l. c.) states that this cormorant in the non-breeding season ranges as far south as the vicinity of Corral, Valdivia. No Chilean breeding-place seems to exist.²

The "Guanay" breeds on the islands along the Peruvian coast from Mollendo north to Punta Pariña, Piura.

¹The reported occurrence in Tierra del Fuego is doubtless erroneous.

²Dr. Murphy (in litt.) suggests, however, that possibly it nests on the little islands of Alecrán, off Arica.

198. *Phalacrocorax magellanicus* (Gmelin)

Pelecanus magellanicus Gmelin, Syst. Nat., 1, (2), p. 576, 1789—based on "Magellanic Shag" Latham, Gen. Syn. Birds, 3, (2), p. 604, Tierra del Fuego, and also Staaten Island.

Phalacrocorax eumegethes Philippi, Anal. Univ. Chile, 103, p. 673, 1899—Reloncaví Bay, Llanquihue; idem, Arch. Naturg., 65, (1), p. 173, 1899—Calbuco, Reloncaví Bay.

Graculus magellanicus Boeck, p. 513—Valdivia; Germain, p. 315—Chiloé Archipelago (breeding habits); Pelzeln (2), pp. 159, 163—Chiloé; Philippi (12), p. 291—Chiloé.

Phalacrocorax magellanicus E. Reed (4), p. 207—Chile; Schalow (2), p. 681, pl. 37—Valparaiso and Isla Lagartija (Calbuco), Llanquihue; Albert (1), 103, p. 836—Llanquihue and Chiloé (monog.); Philippi (23), p. 173—Chiloé; idem (24), p. 105—Chiloé.

Phalacrocorax gracilis (not of Meyen) Philippi (24), p. 105, pl. 49—Calbuco (Llanquihue) and Valdivia.

Range in Chile.—From Valdivia to the Straits of Magellan; accidental at Valparaiso (one record).

Material collected.—Guaitecas Islands: Melinka, Ascension Island, ♂ ad. (intermediate plumage), ♂ imm., Jan. 30, Feb. 2.

The adult bird has the throat largely white in the middle, but no white on the sides of the head; the other example is molting from the brown juvenile into the black plumage.

P. eumegethes from Calbuco, Reloncaví Bay, near Puerto Montt, appears to have been based on an immature individual with undeveloped bill of the present species. In a later communication¹ Philippi, ignoring his own name, describes and figures the same specimen as *G. gracilis* (not of Meyen), and Albert (l. c., p. 838) claims that *G. gracilis* Ph. refers to the juvenile plumage of *P. magellanicus*.

This cormorant is restricted to the southern parts of Chile, breeding on islands from Llanquihue southwards. In the Chiloé Archipelago, according to Germain, it collects in flocks in December, laying from two to four eggs. It chooses the perpendicular rocks of the islands, and in the steepest part it builds a nest of marine and decaying plants. It does not seem to breed in Valdivia, though specimens have been recorded from that province, and it very rarely strays farther north. Its occurrence at Valparaiso, whence Schalow lists a single bird, is evidently quite exceptional.

On the other hand, this species is abundant in the Straits of Magellan, Tierra del Fuego, and on the Falkland Islands.

¹Anal. Mus. Nac. Chile, 15, p. 105, 1902.

199. *Phalacrocorax atriceps atriceps* King

Phalacrocorax atriceps King, Zool. Journ., 4, p. 102, 1828—Straits of Magellan (=adult).

Graculus elegans Philippi, Arch. Naturg., 24, (1), p. 305, 1858—Chiloé Island (=adult).

Graculus albiventer (not *Carbo albiventer* Lesson) Des Murs (2), p. 491—Chile; Boeck, p. 513—Valdivia; Philippi (12), p. 291—Corral, Valdivia.

Graculus cirrhatus (not *Pelecanus cirrhatus* Gmelin) Boeck, p. 513—Valdivia; Philippi (12), p. 291—Chiloé and Corral, Valdivia.

Graculus cristatus (lapsu) Germain, p. 315—Chiloé Archipelago (breeding habits).

Graculus carunculatus (not *Pelecanus carunculatus* Gmelin) Pelzeln (2), pp. 159, 163, pl. VI, fig. 16 (egg)—Chiloé.

Phalacrocorax cirrhatus Selater (2), 1867, pp. 336, 340—Chile; Schalow (2), p. 683—Calhuco (near Puerto Montt), Llanquihue (crit.); Albert (1), 103, p. 833—Chiloé and s. Chile (monog.); Philippi (23), p. 172—Chiloé; idem (24), p. 104, pl. 48—Chiloé.

Phalacrocorax imperialis E. Reed (4), p. 207—Chile.

Range in Chile.—From Valdivia to the Straits of Magellan.

Material collected.—Guaitecas Islands: Melinka, Ascension Island, ♂ ad., Feb. 2.

The Imperial Cormorant also is a southern species, whose northward range does not extend beyond Valdivia Province. As we are told by Germain, it breeds in colonies on the inaccessible rocks of the Chiloé Archipelago, upon the summits of which, surrounded by water, the birds place all their nests near together, constructed of marine and decaying plants; they lay from two to four eggs in December. Nicoll (Ibis, 1904, p. 48) calls them the most abundant of all cormorants in Magellan Straits and Smyth's Channel. *P. albiventer* (Lesson), with black auriculars and more largely developed frontal caruncles, is evidently but a race of the Imperial Cormorant. It breeds on the Falkland Islands, but is also said to occur at the southern extremity of South America, hence in the range of *P. atriceps*. Both may eventually turn out to be conspecific with *P. carunculatus* (Gmelin), of New Zealand.¹

¹Sclater (P. Z. S. Lond., 1867, pp. 336, 340) includes *Phalacrocorax purpurascens* "Brandt" (ex Bonaparte, Consp. Av., 2, p. 177, 1857) among the birds of Chile. Brandt (Bull. Sci. Ac. Imp. Sci. St. Pétersb., 3, No. 4, col. 56, 1837), when describing the species, states "ex patria ignota," and it is now assumed that *C. purpurascens* is identical with *P. carunculatus*, of New Zealand.

Another unidentifiable record is *P. pelagicus*, which Passler (Ornith. Monatsber., 17, p. 102, 1909) claims to have shot in winter at Coronel!

200. *Ardea cocoi* Linnaeus

Ardea cocoi Linnaeus, Syst. Nat., 12th ed., 1, p. 237, 1766 - based on "Le Héron huppé de Cayenne," Brisson, Orn., 5, p. 400, 1760, Cayenne; Des Murs (2), p. 409—Laguna de Campeche, Quillota; Philippi, Arch. Naturg., 21, (1), p. 13, 1855 - Cordillera and Lake Aruleo; Boeck, p. 509—Valdivia; Cassin, p. 192—interior of Chile; Scater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 273—Chile; E. Reed (2), p. 560—Cauquenes, Colchagua; idem (4), p. 207—Chile; Lane, p. 188—Rio Bueno, Pilmaiquen, Valdivia, and Laguna Llanquihue; Schalow (2), p. 680—Sotaquí, Coquimbo; Albert (1), 103, p. 239—Chile (monog.); Bullock (4), p. 200—Rio Malleco, Malleco.

Ardea major Fraser (1), p. 116—southern provinces of Chile.

Range in Chile.—Central provinces, from Coquimbo to Chiloé.

Material collected.—Chiloé Island: Quellon, ♀ ad., Jan. 6, 1923.

The "Cuca" has been recorded from various points in central Chile, but is reported to be nowhere common. In Valdivia and Llanquihue it is a regular winter visitant (Lane). It seems doubtful whether it breeds in Chile.

The species is widely distributed throughout South America.¹

201. *Casmerodius albus egretta* (Gmelin)

Ardea egretta Gmelin, Syst. Nat., 1, (2), p. 629, 1789—based on Buffon's "Grande Egrette": Cayenne, Santo Domingo, and Louisiana; Des Murs (2), p. 410—Chile; Boeck, p. 509—Valdivia; Germain, p. 313—Santiago (breeding habits); Frauenfeld, p. 639—Lake Aculeo, Santiago; Scater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 273—Chile; Scater and Salvin, Ibis, 1869, p. 284—Port Otway; E. Reed (2), p. 560—Cauquenes, Colchagua; Scater (6), 1891, p. 135—Sacaya, Tarapacá; Lataste (5), p. LXII—Llohué (Itata), Maule; Waugh and Lataste (1), p. LXXXVIII—Rio Mapocho, Santiago; idem (2), p. CLXXIII—San Alfonso (Quillota), Valparaíso; E. Reed (4), p. 207—Chile; Lane, p. 188—central Chile and Tarapacá; Schalow (2), p. 680—Sotaquí (Coquimbo) and Calbuco (Puerto Montt); Albert (1), 103, p. 242—Chile (monog.).

*Ardea ohula*² Poeppig (3), p. 8—southern Chile.

Herodias galatea Fraser (1), p. 116—Chile.

Herodias alba Bibra, p. 131—Santiago, Quillota.

Ardea gulatea Hartlaub (3), p. 215—Valdivia.

Egretta galatea Cassin, p. 193—Chile.

Ardea leuce Pelzeln (2), p. 118—Chile.

Herodias egretta Barros (4), p. 45—Nilahue, Curicó (now extinct); Jaffuel and Pirion, p. 112—Marga-Marga, Valparaíso.

¹ Another heron, *Ardea erythrocephala*, described by Molina (Saggio Stor. Nat. Chile, pp. 235, 344, 1782) as white with a long rufous crest is unidentifiable.

² Poeppig's *Ardea ohula* (probably a pen-slip for *thula* Molina) seems to refer to the present species; cf. "pennis interscapularibus longissimis, setaceo-barbatis, ultra caudam propenditibus; occipite cristato; rostro croceo . . ."

Range in Chile. —From Tarapacá to the Straits of Magellan.

The "Garza" is said to be numerous in the central provinces, less common in the south. According to Germain, "it unites in communities to lay, sometimes upon rocks at the sea-shore, sometimes on the trees in woody ravines, where it builds large nests with branches and grasses; it lays from four to eight eggs from October to November." In Tarapacá Lane is inclined to believe this heron to be merely a chance migrant.

202. *Egretta thula thula* (Molina)

Ardea thula Molina, Saggio Stor. Nat. Chile, pp. 235, 344, 1782—Chile; Fraser (1), p. 116—Chile.

Ardea leuce (errore) Poeppig (2), p. 279—Rio Colorado, Santiago.

Ardea candidissima Des Murs (2), p. 411—Chile; Pelzeln (2), p. 118—Chile; Sclater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 273—Chile; E. Reed (2), p. 560—Cauquenes, Colchagua; Sclater (4), 1886, p. 399—Sitani, Tarapacá; idem (6), 1891, p. 135—Sacaya, Tarapacá; Lataste (2), p. XXXIV—Caillihue (Vichuquen), Curicó; idem (5), p. LXII—Llohué (Itata), Maule, and San Carlos, Ñuble; Waugh and Lataste (1), p. LXXXVIII—Peñaflo, Santiago; idem (2), p. CLXXIII—San Alfonso (Quillota), Valparaíso; E. Reed (4), p. 207—Chile; Lane, p. 188—central Chile and Tarapacá; Schalow (2), p. 680—Coquimbo; Albert (1), 103, p. 244—Chile (monog.); Bullock (4), p. 201—Angol, Malleco.

Herodias candidissima Bibra, p. 131—Santiago and Quillota; Jaffuel and Pirion, p. 112—Marga-Marga, Valparaíso.

Egretta thula Cassin, p. 193—Chile; Barros (8), p. 263—Tilicura and Torca, Curicó.

Egretta candidissima Barros (4), p. 45—Ñilahue, Curicó (now extinct).

Range in Chile.—Northern and central provinces, from Tarapacá to Ñuble.

The "Garceta" is stated to be numerous on rivers and swamps in central Chile, where it breeds. The most southerly record is San Carlos, Ñuble, where Lataste secured two specimens in April, 1895. It seems to be absent from southern Chile, and Lane did not see any in Arauco. According to the same observer, this heron is only an occasional migratory visitor in Tarapacá.

203. *Ixobrychus involucris* (Vieillot)

Ardea involucris Vieillot, Tabl. Enc. Méth., Orn., 3, livr. 93, p. 1127, 1823—based on Azara, No. 361, Paraguay.

Ardea exilis (not of Gmelin) Des Murs (2), p. 411—Chile (excl. descr.);¹

¹The description was obviously taken from specimens of the North American species (*I. exilis*).

Boeck, p. 510—Valdivia; Philippi (12), p. 273—Chile; Lataste (5), p. LXII—Junquillos (San Carlos), Ñuble.

Ardeola exilis Fraser (3), p. 1—Chile.

Botaurus exilis Cassin, p. 191—Chile (rare).

Ardea erythromelas (not of Vieillot) Pelzeln (2), p. 124—part, Chile.

Ardetta exilis Selater (2), 1867, pp. 334, 339—Chile; E. Reed (4), p. 207—Chile; Schalow (2), p. 679—Chile; James (2), p. 8—Chile; Albert (1), 103, p. 247—Chile (monog.).

Ardetta involucris E. Reed (2), p. 560—Laguna de Cauquenes, Colchagua.

Ardetta erythromelas Schalow (2), p. 679—Puerto Montt (eggs descr.).

Ixobrychus involucris Passler (3), p. 446—Coronel (breeding habits).

Egretta involucris Jaffuel and Pirion, p. 112—Valley of Marga-Marga, Valparaíso.

Range in Chile.—From Santiago to Llanquihue.

Material examined.—“Central Chile:” ♂ ad. (nuptial). J. Zelebor, “Novara” Expedition (Vienna Museum).

The “Huaravillo” is reported to be a scarce resident in Chile, but owing to its retiring habits is doubtless often overlooked. Edwyn Reed states that several pairs nest every year around the lagoon of Cauquenes, Colchagua. Boeck shot a single specimen near Valdivia, where it is said to be very rare, and Lataste secured a couple at Junquillos (San Carlos), Ñuble, on May 22 and 23, 1895, while Schalow describes eggs taken by G. Hopke at Puerto Montt, Llanquihue. According to Pässler, the Least Bittern is found among the reeds of ponds and marshes near Coronel, but is exceedingly shy and rarely seen. The nesting season begins about the middle of October. The funnel-shaped nest is made of short, dry reed-grass, and contains three elliptical, dull grass green or yellowish green eggs.

I. involucris ranges over Chile, Argentina, Paraguay, Uruguay, and extreme southern Brazil (Rio Grande do Sul to São Paulo).

204. *Nycticorax nycticorax obscurus* Bonaparte¹

Nycticorax obscurus Bonaparte, Consp. Av., 2, p. 141, 1857—Chile;² Pelzeln (2), p. 124—Chile; Selater (2), 1867, pp. 334, 339—Chile; E. Reed (2), p. 561—Cauquenes, Colchagua; Ridgway (2), p. 137—Port Otway; Lane,

¹ *Ardea cyanocephala* Molina (Saggio Stor. Nat. Chile, pp. 235, 344, 1782) has been referred to the Chilean Night-heron by Sharpe and others. However, the description, “Ha la testa, e il dorso turchini, le ali nere orlate di bianco, il ventre giallo verdicchio, la coda verde, il becco nero, e le gambe gialle,” hardly fits the species. It appears to be one of those fictitious birds Molina described from hearsay or memory.

² Although Bonaparte includes Falkland Island birds sent to the Paris Museum by Quoy and Gaimard, the diagnosis is obviously based on Gay's specimens from Chile.

p. 188—part, central and southern Chile; Lataste (6), p. LXVII—Chile (plumages); E. Reed (4), p. 207—Chile; Schalow (2), p. 679—Coquimbo and Calbuco (Puerto Montt); Bullock (4), p. 201—Angol, Malleco.

Ardea nycticorax Kittlitz, Kupfert. Naturg. Vog., Part 3, p. 26, pl. 35, fig. 1, 1833—Chile; Peale, p. 215—Chile (crit.); Kittlitz, Denkw., 1, p. 122—San-Tomé, Concepción.

Nycticorax americanus Darwin, p. 128—Valparaiso.

Nycticorax cyanocephalus Fraser (1), p. 116—Chile; Barros (4), p. 45—Nihue, Curicó; idem (5), p. 173—Precordillera of Aconcagua; Housse (1), p. 52—Isla La Mocha, Arauco; idem (2), p. 149—San Bernardo, Santiago; Passler (3), p. 445—Coronel; Jaffuel and Pirion, p. 112—Marga-Marga, Valparaiso.

Nycticorax naevius Des Murs (2), p. 412—Chile; Boeck, p. 510—Valdivia; Philippi (12), p. 273—Chile; Waugh and Lataste (1), p. LXXXVIII—Peñaflor, Santiago; idem (2), p. CLXXIII—San Alfonso (Quillota), Valparaiso.

Nycticorax gardeni Bibra, p. 131—Santiago; Hartlaub (3), p. 216—Valdivia; Cassin, p. 193—Chile; Germain, p. 313—Santiago (nesting habits).

Nycticorax griseus Albert (1), 103, p. 251—Chile (part).

Nycticorax cyanocephalus Gigoux, p. 87—Caldera, Atacama.

Range in Chile.—From Atacama (Caldera) to the Straits of Magellan.

Material collected.—Concepción: Concepción (near coast), ♂ juv., April 4, 1923.

Additional specimens.—Cautin: Finfiñ, Temuco, ♂ ad., April 30, 1910. A. C. Saldaña; Maquehue, Temuco, ♂ ad., Sept. 8, 1905. D. S. Bullock; Pelal, Temuco, ♂ juv., two ♀ ♀ juv., Nov. 6–24, 1909. A. C. Saldaña.—Valdivia: Rio Contra, ♂ juv., Jan. 13, 1891. A. A. Lane.—Llanquihue: Frutillar, near Lago Llanquihue, ♂ ad., Dec. 6, 1890. A. A. Lane (all in the British Museum).

Although the series is not so large as could be desired, the available material clearly shows that in spite of Hartert's contrary assertion the night-herons of southern Chile and the Straits of Magellan are not the same as those from Argentina and Paraguay, to which the name *tayazu-guira* had been applied by Sharpe and others. They differ, when adult, in having the whole under surface including the sides of the head nearly uniform sooty or dark smoke brown, only the chin and the middle of the upper throat being white, whitish, or brownish white. In juvenile plumage they are very dark above with large deep buff spots; the sides of the head are densely streaked with blackish brown and buff or rufescent, and the lower parts strongly suffused with buff, the dark stripes very broad and blackish. A series from the Straits of Magellan (Cockle Cove, Puerto Bueno,

Mesier Channel, Trinidad Channel) and two young birds from Tierra del Fuego (Estancia Viamonte, Rio Grande) in the British Museum collection are similar to the Chilean examples. It is quite possible that in response to the greater amount of humidity the racial characters of *obscurus* are more strongly developed in the southern part of its range, since two adults from Cockle Cove and Frutillar (Llanquihue) are decidedly darker below than two from Temuco. In central Chile, whence unfortunately no material whatever is accessible, the dark form may eventually be found to merge into *tayazu-guira*, to which birds from Tarapacá must be referred.

The "Huairavo" is reported to be locally common. According to Germain, it nests in colonies on reeds or bushes surrounding the marshes, and lays from three to five eggs in October or November. It only occurs in the plains and foothills, being rarely seen above 4,000 feet.

205. *Nycticorax nycticorax tayazu-guira* (Vieillot)

Ardea tayazu-guira Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 14, p. 437, 1817—based on Azara, No. 357, Paraguay.

Nycticorax naevius (not of Boddaert) Philippi, Ornith., 4, p. 159—Empexa, Tarapacá.

Nycticorax griseus Albert (1), 103, p. 251—Chile (part).

Nycticorax obscurus (not of Bonaparte) Sclater (6), 1891, p. 136—Sacaya, Tarapacá; Lane, p. 188—part, Sacaya.

Range in Chile.—Extreme northern section, in province of Tarapacá.

Material examined.—Tarapacá: Sacaya, two ♂♂ ad., one ♀ ad., three ♂♂ juv., Jan. 24, March 7, April 21–30, 1890. A. A. Lane (British Museum).

This series is unquestionably different from the south Chilean form (*N. n. obscurus*). The adult birds are pale gray underneath with the throat extensively white and a strong white suffusion along the middle of breast and abdomen. The juvenile plumage is much paler brown above with smaller, sometimes hardly any, *whitish* spots on the back; the sides of the head are much more narrowly streaked with blackish brown and whitish; the lower parts white, rarely slightly tinged with pale buff on foreneck and chest, and the dusky streaks narrower and not so dark, often pale brown. The Tarapacá birds agree with others from southern Chubut (Valle del Lago Blanco),¹

¹ From northern Chubut and western Rio Negro Wetmore (Univ. Calif. Pub. Zool., 24, p. 412, 1926) and Peters (Bull. Mus. Comp. Zool., 65, p. 299, 1923) record *N. "cyanocephalus"* [= *N. n. obscurus*].

Bolivia, and southern Peru (Tinta), though those in juvenile plumage, doubtless owing to their excessively worn and bleached condition, are extremely pale brown (nearly unspotted) above.

As far as my material goes, the distribution of the two races of night-heron in southern South America seems quite clear. From Chapman's remarks¹ it appears, however, that in parts of Peru certain specimens are met with that cannot be distinguished from the dark Chilean form (*obscurus*). This also obtains in the Falkland Islands, whence the British Museum has a series of ten birds in adult and juvenile plumage. While the majority fit very well in with the pale race from Argentina, Tarapacá, and Peru, one adult is just as dark as, and cannot be told from, two Temuco examples. The occasional occurrence of dark-colored individuals in the range of the light form I look upon as a reversion to ancestral characters rather than as a case of dichromatism.

I quite agree with Dr. Chapman that the Falkland Island Night-heron, named *N. cyanocephalus falklandicus* by Hartert,² cannot be separated from the mainland birds east of the Andes, unless it be on account of its smaller size.

As to the proper name of the light-colored eastern race, I prefer for the present to use Vieillot's term *tayazu-quira*, which is of undoubted applicability, since a juvenile bird from Villa Rica, Paraguay, collected on Oct. 18, 1905, by Lord Brabourne, is in every respect similar to those from Argentina, etc., whereas its absolute identity with the night-heron of North and northern South America (*N. n. hoactli* (Gmelin)) has yet to be proved.³

WING MEASUREMENTS OF ADULTS

N. n. tayazu-quira

| | |
|------------------------------------|---------|
| Two males from Tinta, Cuzco, Peru | 337,350 |
| One unsexed from "High Peru" | 355 |
| One unsexed from Bolivia | 335 |
| One male from Sacaya, Tarapacá | 340 |
| One female from Sacaya, Tarapacá | 336 |
| Two males from Lago Blanco, Chubut | 330,345 |

N. n. falklandicus

| | |
|--|-----------------|
| One male from the Falkland Islands | 320 |
| One female from the Falkland Islands | 307 |
| Four unsexed from the Falkland Islands | 313,318,320,322 |

N. n. obscurus

| | |
|--|---------|
| Two males from Temuco, Chile | 337,340 |
| One male from Llanquihue, Chile | 328 |
| One female from Cockle Cove, Straits of Magellan | 332 |

¹Bull. U. S. Nat. Mus., 117, pp. 51-54, 1921.

²Bull. Brit. Orn. Cl., 35, p. 15, 1914.

³See, however, Peters, Proc. Bost. Soc. Nat. Hist., 39, pp. 265-267, 1930.

206. *Euxenura maguari* (Gmelin)¹

Ardea maguari Gmelin, Syst. Nat., 1, (2), p. 623, 1789—based on "Maguari" Marcgrave, Hist. Nat. Bras., p. 204, northeastern Brazil.

Ciconia pillus Fraser (1), p. 116—marshes of Colchagua (habits); Cassin, p. 156—Chile.

Ciconia maguaria Des Murs (2), p. 415—Chile; Philippi (12), p. 274—Colchagua.

Ciconia maguari Poeppig (3), p. 9—Chile; Pelzeln (2), p. 125—Chile; Sclater (2), 1867, pp. 334, 339—Chile; E. Reed (2), p. 561—Cauquenes, Colchagua.

Euxenura maguari E. Reed, Ibis, 1893, p. 596—Chile (resident); idem (4), p. 207—Chile; Albert (1), 104, p. 991—Chile (rare).

Range in Chile.—Central provinces.

Very little information is available on the distribution of the "Pillo" in Chile, where it is reported to be rather rare. Both Bridges and Philippi claim, however, that it is fairly common in the province of Colchagua, and the first named naturalist (P. Z. S. Lond., 11, 1843, p. 116) tells us that it "feeds on a species of lobster, called by the natives 'Cangrejo,' which is abundant in the marshes and moist meadows. The habitat of the Cangrejo may be known by the extraordinary cylinders which it makes with the mud taken from its caves; sometimes they are elevated a foot above the surface of the soil, looking like so many little columns. The Pillo whilst stalking amongst them catches the Cangrejo on the top depositing its load brought from the bottom of the cave."

We have not seen any Chilean material.

207. *Plegadis falcinellus guarauna* (Linnaeus)

Scolopax guarauna Linnaeus, Syst. Nat., 12th ed., 1, p. 242, 1766—based on "Guarauna" (Brisson ex) Marcgrave, Hist. Nat. Bras., p. 204, northeastern Brazil.

"*Harpipion cayancensis* (*Ibis* (*Falcinellus*) *ordi*, Bonap.)" [sic] Fraser (1), p. 117—marshy places [in Chile].

Ibis falcinellus Des Murs (2), p. 416—Chile (descr. of nuptial plumage); Pelzeln (2), p. 125—Chile (crit.); Sclater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 274—Chile; idem, Ornith., 4, p. 160—Antofagasta; Lataste (1), p. CXVI—road to Chillan, Ñuble.

Falcinellus guarauna Des Murs (2), p. 418—vicinity of Valparaíso (descr. of winter and juvenile plumage); Germain, p. 313—Santiago (breeding habits).

¹Both *Ardea galatea* Molina (Saggio Stor. Nat. Chile, pp. 235, 344, 1782) and *Tantalus pillus* Molina (l. c., pp. 243, 344) refer in part to the South American Stork, in part to the Egret. Characters of the two species are, however, so badly mixed up in the descriptions that both names should be discarded as undeterminable. See, however, Deautier and Steullet, Rev. Chil. Hist. Nat., 33, pp. 475, 476, 1929.

Ibis guarauna Bibra, p. 131—northern Chile; Cassin, p. 197—Chile.

Falcinellus igneus E. Reed (2), p. 561—Laguna de Cauquenes, Colchagua (breeding).

Plegadis guarauna E. Reed (4), p. 207—Chile; Albert (1), 104, p. 996—Chile (breeding); C. Reed (4), p. 56—Pudahuel, Santiago (food).

Plegadis falcinellus Jaffuel and Pirion, p. 112—Marga-Marga, Valparaiso.

Range in Chile. From Antofagasta to Colchagua.

Very little is known about the distribution of the Glossy Ibis in Chile. According to Germain, "they assemble [in the vicinity of Santiago] in numerous flocks for nesting, and lay from November to December four to six eggs in a nest of rushes, placed in the midst of reeds," and Edwyn Reed reports to have found hundreds of couples nesting in the month of January around the Laguna de Cauquenes, Colchagua. In winter they congregate in large flocks and are, to a certain extent, migratory.

The few Chilean specimens (none with locality specified) which we have seen appear to be inseparable from Brazilian birds.

208. *Theristicus caudatus melanopsis* (Gmelin)¹

Tantalus melanopsis Gmelin, Syst. Nat., 1, (2), p. 653, 1789—based on "Black-faced Ibis" Latham, Gen. Syn. Bds., 3, (1), p. 108, pl. 79, 1785, New Year's Island, near Staten Land (ex Forster); Poeppig (2), p. 279—Rio Colorado, Santiago.

Ibis albicollis (errore) Meyen, p. 105—southern Chile.

Theristicus melanops Fraser (1), p. 117—interior of Chile; E. Reed (2), p. 561—Cauquenes, Colchagua (rare).

Ibis melanopsis Des Murs (2), p. 417—Chile to the Straits of Magellan; Hartlaub (3), p. 216—Valdivia; Cassin, p. 197—mountains of Chile; Germain, p. 313—Cordillera of Santiago (breeding habits); Philippi, Reise Wüste Atacama, p. 163—Cachinal de la Costa, Atacama; Sclater (2), 1867, p. 339—Chile; Philippi (12), p. 274—Chile; idem, Ornith., 4, p. 159—Cachinal de la Costa; Lataste (1), p. CXV—Bureo (Chillán), Ñuble.

Ibis melanopsis Lesson (11), p. 209—Valparaiso; Bibra, p. 131—northern Chile; Boeck, p. 510—Pampa de Negrón, Río Bueno, Arique, etc., Valdivia; Gigoux, p. 87—Caldera, Atacama.

Theristicus melanopsis Pelzeln (2), p. 127—Chile; Jaffuel and Pirion, p. 112—Quebrada de la Madera, Marga-Marga, Valparaiso; Barros (10), p. 356—Aconcagua.

Theristicus caudatus E. Reed (4), p. 207—Chile; Schalow (2), p. 678—Villarrica; Albert (1), 104, p. 1001—Chile; Bullock (3), p. 127; idem (4), p. 200—Cerro de Nahuelbuta, Biobío.

Ibis menalops (sic) Housse (1), p. 52—Isla La Mocha, Arauco.

¹The three "species" of this genus are clearly members of one "formenkreis."

Range in Chile.— From Atacama (Cachinal de la Costa) to the Straits of Magellan.

Material collected. Guaitecas Islands: La Senda, Guaiteca Island, ♂ ad., Feb. 3. Cautin: Rio Pehuenco (alt. 4,680 feet), ♂ ad., Feb. 26.— Chiloé Island: Rio Inio, ♀ ad., Jan. 9; Quellon, ♀ ad., Dec. 23.

Additional specimens. —Cautin: Finfiñ, Temuco, ♀ ad., March 31, 1910. A. C. Saldaña. —Chiloé Island: ♂ ad., July, 1905. C. S. Reed (both in Field Museum collection).

The Chilean series agrees with specimens from the Rio Gallegos, southern Patagonia.

The "Bandurria" is stated to be fairly common throughout Chile, though more plentiful in the southern provinces. According to Germain, it "builds in the month of October a rude nest in steep and rugged rocks, in which it deposits from three to five eggs; in the provinces of the south it chooses for its nest the summits of dead, high, and inaccessible trees, while in the north it retires often for this purpose to the Cordilleras, to the height of seven or eight thousand feet." Barros, however, states that this ibis, while a regular winter visitor to the foothills, is never seen in the Cordilleras of Aconcagua. The most northerly record from Chile is Cachinal de la Costa, Atacama, where this ibis was met with by R. A. Philippi. Sanborn observed it a little to the south, at Ramadilla, in the Copiapó Valley. No representative of this group has been found in either Antofagasta, Tarapacá, or Tacna. *T. c. melanopsis* is said, however, to reappear on the Peruvian coast, at Ica, Lima, and Chorillos.¹ Besides, it breeds in southern Patagonia and Tierra del Fuego, migrating northwards in winter.

209. *Ajaia ajaja* (Linnaeus)

Platalea Ajaja Linnaeus, Syst. Nat., 10th ed., 1, p. 140, 1758—based on "Platea incarnata" Sloane (Voy. Jam., 2, p. 316—salt ponds of Jamaica) and "Aiaia" Maregrave (Hist. Nat. Bras., p. 204); Rio São Francisco, eastern Brazil (ex Maregrave) may be accepted as type locality; Fraser (1), p. 117—south of Valparaiso; Des Murs (2), p. 414—Chile; Bibra, p. 131—Chile; Cassin, p. 197—Chile; Sclater (2), 1867, p. 339—Chile; Philippi (12), p. 274—provinces of Santiago and Colchagua (Hacienda de Larmahue).

Platelea (sic) *ajaja* (sic) E. Reed (2), p. 561—Cauquenes, Colchagua.

Ajaja rosea E. Reed (4), p. 207—Chile; Albert (1), 104, p. 1006—Chile (monog.); idem (2), 4, p. 7, pl.—Chile.

¹Cf. Berlepsch and Stolzmann, P. Z. S. Lond., 1892, pp. 389–392; Salvadori, Ibis, 1900, pp. 511–515.

Range in Chile.—Central provinces of Valparaiso, Santiago and Colchagua.

The Roseate Spoon-bill, widely distributed in South and southern North America, is stated to be very rare in Chile. Bridges, as reported by Fraser, tells us that "it is found in small flocks of five or six along the margins of rivers south of Valparaiso," while Philippi records its occurrence in Santiago and Colchagua and its nesting in the Hacienda de Larmahue, in the latter province.

210. *Phoenicopterus ruber chilensis* Molina

Phoenicopterus chilensis Molina,¹ Saggio Stor. Nat. Chile, pp. 242, 344, 1782—Chile; Poeppig (3), p. 8—Andes of Chile; Fraser (1), p. 117—especially the southern provinces of Chile; Bibra, p. 131—northern Chile.

*Phoenicopterus ignipalliatu*s Des Murs (2), p. 441—Chile; Cassin, p. 198—Rio Maule; Frauentfeld, p. 638—Lake Aculeo, Santiago; Pelzeln (2), p. 136—Chile; Sclater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 279—Cordilleras of Chile; idem (14), p. 160—source of the Rio Maule (eggs descr.); idem, Ornith., 4, p. 160—Antofagasta; E. Reed (2), p. 561—Cauquenes, Colchagua; idem (4), p. 207—southern Chile; James (2), p. 9—Chile; Albert (1), 108, p. 557—Chile (monog.).

Range in Chile.—From Antofagasta to the Straits of Magellan.

Material collected.—Antofagasta: twenty miles east of San Pedro, ♂ ad., Sept. 18, 1923.

The "Flamenco" is generally distributed over the Chilean Andes, where it seems to nest in the small fresh-water lagoons of the high Cordilleras. Philippi, through T. Medina, received an egg taken in a breeding colony on a lagoon at the source of the Rio Maule, Talca. Bridges found these birds abundant in the lakes and rivers, but has never been able to ascertain where they build their nests. Gilliss states that they are quite common on the interior fresh-water lakes, and encountered a large flock of them on the shores of the Rio Maule. Philippi was the first to record this species from Antofagasta, and, although his identification has been questioned, its occurrence so far north is confirmed by the specimen in our collection.

This flamingo is immediately recognizable from the other Chilean species by more elevated (less depressed) upper mandible, the absence of red at the base of the bill, naked chin, the presence of a distinct, though small hind toe, and various differences in coloration.

¹The description is erroneous in so far as the remiges are called "white" instead of black, doubtless a pen-slip.

P. r. chilensis is widely diffused in Argentina, extending into Uruguay and extreme southern Brazil (Rio Grande do Sul), and has also been found in southern Peru (Puno and Lake Junín). In the late Count Berlepsch's collection I have seen specimens shot by Otto Garlepp at Esperanza (Sajama), Oruro, Bolivia.

211. *Phoenicoparrus andinus* (Philippi)

Phoenicopterus andinus Philippi, Anal. Univ. Chile, Aug., 1854, p. 337—salt-lake below Altos de Pingo Pingo, Antofagasta; idem, Arch. Naturg., 21, (1), p. 12, 1855—same locality; Cassin, p. 198—Antofagasta (ex Philippi); Philippi, Reise Wüste Atacama, pp. 57, 164, pl. 4, 5—near Tilopozo, Antofagasta; Sclater (2), 1867, pp. 334, 339—part, "Cordilleras of Copiapó"; Philippi (12), p. 279—Atacama; idem, Arch. Naturg., 45, (1), p. 160, 1879—Atacama (eggs descr.); Sclater (4), 1886, p. 399—Huasco, Tarapacá (eggs descr.); Rahmer, Journ. Orn., 35, p. 161, 1887—Maricunga, east of Copiapó (Atacama) to Cancosa, Tarapacá; Philippi, Orn., 4, p. 160—Antofagasta; Sclater (6), 1891, p. 136—salt-marshes of "Canchosa" [=Cancosa], Tarapacá; E. Reed (4), p. 207—Atacama; Lane, p. 189—Huasco and Cancosa, Tarapacá; Philippi (24), p. 74, pl. 23, fig. 3 (bill), pl. 24—Bolivia to Copiapó.

Phoenicoparrus andinus Albert (1), 108, p. 506—northern Chile (monog.).

Range in Chile.—Puna Zone of northern Chile, from central Tarapacá (Cancosa, Sacaya Valley) south to Atacama.

The "Parrina" was originally discovered by R. A. Philippi near Tilopozo, on the south shore of the Salar de Atacama, in Antofagasta. Carlos Rahmer, thirty years later, met with it at Cancosa, in the Sacaya Valley, in central Tarapacá, and thence found it in all suitable localities as far south as Maricunga in the Cordillera of Copiapó. On the Salar de Huasco the birds were counted by the thousands. Lane also observed them at Huasco and Cancosa. They inhabit the salt-lagoons at elevations of from 10,000 to 15,000 feet and appear to be resident. Their eggs have been described by Philippi and Sclater.

Outside of Chile, this flamingo is known to occur in northwestern Argentina (Lagunas de Calchaquies, Tucumán). In the Berlepsch Collection are specimens secured by Otto Garlepp in April, 1901, at Esperanza (Sajama), Oruro, Bolivia.

212. *Phoenicoparrus jamesi* (Sclater)

Phoenicopterus jamesi Sclater, P. Z. S. Lond., for June, 1886, p. 399, pl. 36—Sitani, at the foot of the Volcano "Tsluga" [=Isluga], Tarapacá; Rahmer, Anal. Univ. Chile, 69, 1a secc., p. 753, 1886—foot of Volcano Isluga; idem, Journ. Orn., 35, p. 160, pl. 2, 1887—salt-lake at the foot of Isluga;

Cabanis, l. c., 37, p. 76, 1889—"Arica"; James (2), p. 9—Tarapacá; E. Reed (4), p. 207—Tarapacá; Philippi (24), p. 74, pl. 33, figs. 1, 2—Tarapacá.

Phoenicoparrus jamesi Albert (1), 108, p. 563—Tarapacá (monog.).

Phoenicopterus andinus Philippi (1), p. 338; idem (2), p. 12—part, Tarapacá (coll. Bollaert); Sclater (2), 1867, p. 334—part, Tarapacá (coll. Bollaert); Gray, Ibis, 1869, p. 443, pl. 15, figs. 9, 10—"Peruvian Andes" [=Bollaert's specimen].

Range in Chile.—Puna Zone of northern Tarapacá (Laguna de Parinacota; Sitani, base of Isluga).

The discovery of a second three-toed species of flamingo is due to the interest of the late H. Berkeley James, who organized Rahmer's expedition to the Cordilleras of Tarapacá. It was made known to science almost simultaneously by Sclater and Rahmer, who very appropriately named this striking bird in honor of Mr. James, Sclater's description apparently having several months' priority.

P. jamesi is nearly related to *P. andinus*, but decidedly smaller, the bill particularly so, and may be readily distinguished by the differently colored bill. In *P. jamesi* the black terminal portion is much less extensive, and is succeeded by an orange yellow area occupying the whole basal portion, while the narrow rim at the base of the forehead, the lores, and the naked skin round the eye are carmine red. There is, besides, a red spot terminating the orange yellow at the front of the upper mandible. The external secondaries and scapulars are bright rosy-red and elongated into filiform plumes, extending about two inches beyond the tips of the primaries; the legs and feet are dark brick red instead of pale yellowish; the naked loreal space is wider and differently shaped.

The heads of the three Chilean flamingos are well depicted on the plate accompanying Rahmer's paper in the "Journal für Ornithologie" for 1887.

The first specimen of James's Flamingo was secured around 1850 on the Laguna de Parinacota, southwest of Isluga, by W. Bollaert and, although it passed into the collection of the British Museum, its distinctness from *P. andinus* was not recognized.

In Tarapacá *P. jamesi*, according to Rahmer, does not range beyond the Isluga region in the south, and seems to be restricted to the department of Pisagua in the northern section of the province, while farther south, around Cancosa, Sacaya, and Huasco, its place is taken by *P. andinus*. It has been recorded, however, by Ménegaux¹ from Abrapampa, Jujuy, where six specimens were secured by

¹Bull. Soc. Philom. Paris, (10th ser.), 1, p. 222, 1909.

the expedition of Créquí-Montfort and Sénéchal de la Grange. Northwards the range of *P. jamesi* stretches through western Bolivia to extreme southern Peru (Puno).¹ We have seen in the Berlepsch Collection a splendid series of thirty specimens, adults and young, obtained by Otto Garlepp in April and May, 1901, at Esperanza and Sajama (alt. 4,000 meters), Oruro, Bolivia. In the same locality (Esperanza) the collector also shot specimens of *P. andinus*, a fact which seems to indicate their specific difference.

Like its ally, *P. jamesi* inhabits the salt-lakes in the Puna Zone upwards of 12,000 feet. The example in the Berlin Museum said to be from "Arica" is doubtless incorrectly labeled.

213. *Cygnus melancoryphus* (Molina)

*Anas melancorypha*² Molina, Saggio Stor. Nat. Chile, pp. 234, 344, 1782—Chile.

Cygnus nigricollis Fraser (1), p. 118 lakes near the coast of Chile; Tschudi, p. 35—Valparaiso; Yarrell, p. 54—Chile (egg); Des Murs (2), p. 445, pl. [11]—Laguna de Taguatagua, Valdivia (breeding); Bibra, p. 131—lakes of Chile; Cassin, p. 200—small mountain lakes [of Chile]; Germain, p. 315—Chile (breeding habits); Frauenfeld, p. 638—Lake Aculeo, Santiago; Pelzeln (2), p. 137—Santiago; Selater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 281—Chile; E. Reed (2), p. 562 Cauquenes, Colchagua (rare), more common in the south; idem (4), p. 207—Chiloé and lagunas of central provinces; Lane, p. 191—Rio Pilmaiquen, Valdivia; Lataste (10), p. 192—Lake Aculeo, Santiago; Bullock (4), p. 205—Angol, Malleco.

Cygnus melancoryphus Barros (9b), p. 160—Tilicura, Curicó.

Range in Chile.—Central and southern provinces to Straits of Magellan.

Material collected. Llanquihue: Casa de Richards, RioÑirehuau, ♂ ad., two ♀♀ ad., one ♂ juv., one ♀ juv., Feb. 21–March 6 (Conover Collection).

The Black-necked Swan is reported to be common in southern Chile. According to Gay, it used to breed on floating islands in the Laguna de Taguatagua, Valdivia,³ and Lataste describes its breeding under similar conditions on Lake Aculeo, Santiago. Gilliss observed it frequently in the small mountain lakes, on the shores of which it builds its nest, and Germain tells us that the female lays between June and August from four to six eggs in a rather large nest placed among the reeds of marshes and lakes. Edwyn Reed found

¹Berlepsch and Stolzmann, *Ornis*, 13, p. 131, 1906.

²*Melancoripha* on p. 234, correctly spelt on p. 344.

³This lagoon was drained in 1841, and its former location is now used for agricultural purposes.

this swan abundant on the coast of Chile, probably in winter. According to Barros, it breeds in the swamp of Tilicura, Curicó. Bullock lists it as a very rare visitor to Angol.

214. *Coscoroba coscoroba* (Molina)

Anas coscoroba Molina, Saggio Stor. Nat. Chile, pp. 234, 344, 1782—Chile.

Cygnus coscoroba Des Murs (2), p. 446—Chile; Pelzeln (2), p. 137—Chile; Sclater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 281—Chile (rare); E. Reed (2), p. 562—central provinces (rare).

Coscoroba candida E. Reed (4), p. 208—Chile (rare).

Range in Chile.—Central and southern provinces. Winter visitor from the south.

The Coscoroba Swan is listed as a rare winter visitor to Chile. No definite locality or any other data are on record.

[*Anas iopareia* Philippi]

Anas iopareia Philippi, Arch. Naturg., 26, (1), p. 24, 1860—Chile; Sclater (2), 1867, pp. 335, 340—Chile (ex Philippi); Philippi, P. Z. S. Lond., 1868, p. 531—Chile (crit.).

Cairina moschata? Pelzeln (2), p. 139—Chile.

This alleged species turned out to be a hybrid between the Muscovy Duck (*Cairina moschata*) and some domesticated race. The specimens, shot in a wild state in the Andes by Segeth and mentioned by Pelzeln, probably were of similar origin.

Neither *Cairina moschata* (Linnaeus), described by Molina (Saggio Stor. Nat. Chile, pp. 234, 344, 1782) as *Anas regia*, nor *Sarkidiornis sylvicola* Jhering and Jhering, admitted by Sclater (P. Z. S. Lond., 1867, p. 339) s. n. *Sarcidiornis regia*, but rejected by Philippi (l. c., 1868, p. 532) as not Chilean, occur in Chile in a wild state.]

215. *Chloëphaga melanoptera* (Eyton)¹

Anser melanopterus Eyton, Monog. Anat., p. 93, 1838—Lake Titicaca; Darwin, p. 134, pl. 50—"bought at Valparaiso"; Fraser (1), p. 119—on plains near the Andes, in the province of Colchagua (winter).

Bernicla melanoptera Des Murs (2), p. 443—near Quintero, Valparaiso; Bibra, p. 131—Chile; Cassin, p. 201—lakes of the Chilean Andes, Valle de los Piuquenes near Portillo Pass; Philippi and Landbeck (8), p. 428—Andes of Chile north to Peru (habits); idem (11), p. 185—Andes of Chile (monog.); Pelzeln (2), p. 137—Chile; Sclater (2), 1867, pp. 334, 339—Chile; Philippi

¹As indicated by the vernacular name, *Otis chilensis* Molina (Saggio Stor. Nat. Chile, pp. 260, 344, 1782) was intended for the Andean Goose, but the description is so utterly wrong that I do not see how the name can be accepted.

(12), p. 280—central provinces to Peru; E. Reed (2), p. 562—lagoons of Cauquenes, Colchagua; Sclater (4), 1886, p. 401—Sacaya, Tarapacá; Philippi, Ornith., 4, p. 160—Brea, Atacama; Sclater (6), 1891, p. 136—Sacaya, Tarapacá; E. Reed (4), p. 207—lagoons of the Cordilleras; Bullock (4), p. 205—Angol, Malleco.

Chloephaga melanoptera Lane, p. 190—Cueva Negra, Huasco, and Sacaya, Tarapacá (breeding habits); Blaauw, Ibis, 1916, p. 485—between Los Sauces and Puren, Malleco; Barros (5), p. 173—Cordillera of Aconcagua.

Range in Chile.—Cordilleras of northern and central Chile, south to Malleco.

The Andean Goose is an inhabitant of the Cordilleras, its range extending from Peru and Bolivia south to Malleco and Mendoza.¹ In the breeding season these birds live at altitudes of 10,000 feet and upwards, but on the approach of the severe weather they resort, congregating in flocks, to the marshy plains at the foot of the Andes.

According to Philippi and Landbeck, the "Piuquén," as it is called by the Chileans, is very common in the Cordillera of Santiago. In November or December the female lays eight to ten eggs in a slight hollow on the rocky shore of one of the many lakes near the edge of the eternal snow. Lane, on the other hand, reports having found, on January 29, at Cancosa, Tarapacá, a nest of this goose in a hole in a low sandy cliff. In the Andes of Aconcagua, R. Barros tells us, the "Piuquén" arrives in August, and after raising its brood departs again in March. In Colchagua Edwyn Reed found it not uncommon around the lagoons of the Cordilleras, while T. Bridges met with it during winter on plains near the Andes. The most southerly Chilean record is from Malleco, where Blaauw saw a flock between Los Sauces and Puren, while riding through a plain at the foot of the Maritime Andes. Bullock states that it occurs at Angol only during migration.

A single adult from Colchagua examined in the British Museum apparently does not differ from a series collected in Tarapacá and Peru.

216. *Chloephaga hybrida hybrida* (Molina)

Anas hybrida Molina, Saggio Stor. Nat. Chile, pp. 241, 344, 1782—Chiloé Island.

Bernicla antarctica Darwin, p. 134—western coast as far north as Chiloé; Des Murs (2), p. 442; Bibra, p. 131—"northern Chile" (errore); Cassin, p. 20, pl. 23—coast of Chile; Philippi and Landbeck (8), p. 437; idem (11),

¹There is no reliable record for its occurrence in the Straits of Magellan. The birds seen by Giglioli at Punta Arenas and attributed to the Andean Goose doubtless belonged to some other species, probably *C. hybrida*.

p. 199—Corral, Arique, and Collico, Calle-Calle River, Valdivia; Pelzeln (2), p. 136—Guaitecas Islands; Sclater (2), 1867, pp. 334, 339—Chile; Philippi (12), p. 280—Straits of Magellan to Chiloé and Valdivia; E. Reed (4), p. 207—Chiloé Island and Chonos Archipelago.

Chloephaga antarctica Sclater and Salvin, Ibis, 1869, p. 284—Port Otway; Blaauw, Ibis, 1916, p. 480—Slight Harbor, Hoppner Sound, Gulf of Peñas, and Melinka, Ascension Island.

Range in Chile.—From the Straits of Magellan north to Valdivia.

Material collected.—Chiloé Island: Rio Inio, two ♂♂ ad., two ♀♀ ad., three ♂♂ juv., three ♀♀ juv., Jan. 12–18 (Collection of H. B. Conover).

In juvenile plumage the sexes are much alike, resembling—except for the dusky bill—the adult female, but the male has a lighter head, always with more or less white on the throat, lores, cheeks, and forehead, and the black pectoral bars are narrower and do not extend so far down the belly, leaving the middle of the lower breast plain white.

The Kelp Goose, called “Cague” or “Caranca” (Chiloé) by the Chileans, breeds from the Straits of Magellan all along the western coast of South America as far north as Chiloé Island. Osgood and Conover found it very common at Rio Inio, especially about the small rocky islands, and on the island of Guapiquilan. “About the middle of January, these geese had young about one-half to two-thirds grown. Many pairs, however, had no young, and as the natives say, I believe, they do not nest their first year at least. The birds with young seemed to keep to the islands more than the others, avoiding the mainland. On Jan. 18, a white male was killed which had molted all its primaries, and several others were seen, which refused to fly and appeared to be in the same condition. No females, however, seemed to have molted their primaries at this time. The natives say that the juvenile males get their white plumage a couple of months after becoming full-grown.” (Conover, MS.)

Edwyn Reed lists the Kelp Goose as abundant in the Chonos Archipelago, and Germain, as reported by Pelzeln, secured it in the Guaitecas Islands in January during the breeding season. Blaauw also noticed it as plentiful on the north coast of Ascension Island.

According to Philippi and Landbeck, this goose, in winter, visits Valdivia Province, and has been observed at Arique and in the harbor of Corral. In 1857, these authors watched a small flock from June 6 up to the end of August, on the Calle-Calle River near Collico, inland of Valdivia City.

On the Falkland Islands the Kelp Goose is replaced by a large-billed race, *C. h. malvinarum* Phillips.¹

217. *Chloëphaga poliocephala* Selater

Chloëphaga poliocephala (Gray, MS.) Selater, P. Z. S. Lond., 25, p. 123, 1857—based on *Bernicla inornata* (not of King) Gray and Mitchell, Gen. of Birds, 3, pl. 165, 1844 (the type in the British Museum is from Chiloé Island); Selater (2), 1867, pp. 335, 339—Chile; Blaauw, Ibis, 1916, p. 484—Chiloé Island.

Bernicla chilensis Philippi and Landbeck, Anal. Univ. Chile, 21, p. 434, 1862—Chiloé Island and Valdivia; idem, Arch. Naturg., 29, (1), p. 195, 1863—Chiloé and Valdivia; Philippi (12), p. 280—Chiloé, in winter as far north as Curicó.

Bernicla inornata Des Murs (2), p. 444—Chile (part, female).

Bernicla poliocephala Pelzeln (2), pp. 136, 163—Chiloé; E. Reed (2), p. 562—Cauquenes, Colchagua (rare); idem (4), p. 207—Curicó.

Range in Chile.—From the Straits of Magellan to Colchagua.

Material collected.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ vix ad., ♀ imm., Feb. 16, 17.—Chiloé Island: Rio Inio, ♀ ad., Jan. 8.—Llanquihue: Casa de Richards, Rio Ñirehuau, three ♂ ♂ ad., three ♀ ♀ ad., Feb. 24–March 6 (Collection of H. B. Conover).

An immature female (from Lake Gualletué) has the pectoral area much duller, sayal brown rather than hazel, and closely barred with blackish; the flanks are washed with buffy, and the dark bands narrower as well as less blackish. Adult birds generally have the rufous breast plain or with but a few scattered blackish spots or bands, mostly near the lower end. In a female (from Casa de Richards), however, the entire pectoral area is barred with blackish, though much more narrowly so than in the bird from Malleco.

The Ashy-headed Goose, "Canquen" of the natives, is widely distributed in southern Chile, though little definite is known about its breeding range. Philippi and Landbeck, who describe the eggs, without stating, however, where they have been taken, assume that it breeds on Chiloé Island, and Blaauw also reports that it is said to be abundant in some seasons and to breed there. According to information gathered by Conover, the breeding grounds of this goose are the lakes in the interior of Chiloé. It is known to nest along the Straits of Magellan and in southern Patagonia.

¹Auk, 33, p. 423, 1916—Port Stephen, West Falkland.

²*Chloëphaga poliocephala* G. R. Gray (List B. Brit. Mus., 3, p. 127, 1844) is a nomen nudum.

In winter, the "Canquen" spreads over the central parts of the republic. Philippi and Landbeck record it from Valdivia Province, and small numbers are said to go as far north as Curicó and Colchagua. Sanborn secured two immatures in February on Lake Gualletné, Malleco.

218. *Chloëphaga picta* (Gmelin)

Anas picta Gmelin,¹ Syst. Nat., 1, (2), p. 504, 1789 based on "Painted Duck" Latham, Gen. Syn. Bds., 3, (2), p. 113, "Staaten-Land" = Staten Island (descr. of male with plain white under parts).

Bernicla dispar Philippi and Landbeck, Anal. Univ. Chile, 21, p. 431, 1862 — Chile; idem, Arch. Naturg., 29, (1), p. 190, 1863 Laguna de Cauquenes, Colchagua; Pelzeln (2), p. 137 Chile; Philippi (12), p. 280 — central provinces; idem (24), p. 76, pl. 35 Chile (reprint of original account).

Chloëphaga magellanica Fraser (1), p. 118 — Chile (in winter on the plains).

Bernicla inornata Des Murs (2), p. 444 — Chile (part, male).

Bernicla magellanica Des Murs (2), p. 443 Chile (excl. ethology); Cassin, p. 201, pl. 24 — Chile; Boeck, p. 511 — Valdivia; Pelzeln (2), p. 136 Chile (eggs descr.); E. Reed (2), p. 562 Colchagua.

Chloëphaga dispar Selater (2), 1867, pp. 334, 339 — Chile.

Bernicla dispar E. Reed (4), p. 207 lagoons of the Cordilleras.

Range in Chile. From the Straits of Magellan to Colchagua.

Material collected. — Ilanquihue: Casa de Richards, Rio Ñirehuau, two ♂♂ ad., one ♂ (imm.?), two ♀♀ ad., two ♀♀ imm., Feb. 24–March 9 (Collection of H. B. Conover).

There can be little doubt in my mind that the two recognized "species" of Upland Goose, *C. "magellanica"* and *C. "inornata"* (or *dispar*), are either merely individual mutants or ill-segregated local races.

Philippi and Landbeck separated the form with black-and-white barred under parts in the male, and grayish crown in the female sex as *B. dispar*. While basing their descriptions on winter birds from central Chile, they claim that this goose breeds on the lagoons of the Cordilleras and specifically mention the Laguna de Cauquenes, Colchagua, as one of its nesting places. The authors admit, however, that they are not acquainted with its nuptial plumage, and as the breeding of the Upland Goose in central Chile has not been confirmed subsequently, I cannot help thinking that the statement was

¹This is the earliest name for the Upland Goose. Latham's description is quite unmistakable and refers to the phase with plain white (unbarred) under parts. *Anas picta* Gmelin has page-priority over the same author's *A. magellanica* (l. c., p. 505), which is, besides, preoccupied by *A. magellanica* Sparman (Mus. Carls., fasc. 2, pl. 37, 1787) = *Chloëphaga hybrida*, female, as well as over *A. leucoptera* Gmelin (p. 505).

based on hearsay rather than on actual observations. So far as we know, the Upland Goose is merely a rather unusual winter visitor to the central provinces, and its breeding grounds lie much farther south in Patagonia and Tierra del Fuego.

I may say at the outset that I have not been able to discriminate the two types of coloration in the female sex. Newly molted specimens have the top of the head decidedly washed with rufescent, but as the breeding season advances, this tone, which is restricted to the edges of the feathers, is gradually worn off, and the crown assumes a grayish appearance.

As to the extent of black bars on the under parts of the males, there appears to be much individual variation, white-breasted as well as heavily barred birds having been taken or observed together in the same locality, while intermediates are frequent. J. B. Hatcher, when with the Princeton University Expedition to Patagonia, shot both varieties on November 12, 1896, at Coy Inlet, Santa Cruz.¹

Oustalel² found plain-breasted, barred, and intermediate specimens among his series from the Straits of Magellan (Elizabeth Island and Orange Bay). Blaauw (Ibis, 1916, p. 483) reports to have seen some white-breasted birds associated with flocks of the banded-bellied form (*C. "inornata"*) in Tierra del Fuego, where Crawshay³ made similar observations.

There is, however, the possibility that the variation—to some degree at least—might be connected with different areas, and that in certain districts one type of coloration predominates over the other. For instance, four males from Rivadavia, s. e. Chubut, are all heavily barred below, though the width of the bars and their extension towards the abdomen vary considerably, while four others from the Lago Argentino, western Santa Cruz, belong to the plain-breasted type, the black bars being confined to the flanks. From Rio Ñirehuau, farther north on the eastern slope of the Andes, we have one white-breasted specimen; another example taken a few days later shows scattered black-barred feathers on the foreneck, chest, and middle of the belly; a third individual, an immature male with dusky rump and upper tail coverts, has a limited zone on the upper chest narrowly barred with dark brown, while all the sides of the breast

¹Scott and Sharpe, Rep. Prince. Univ. Exp. Patagonia, Orn., 2, (1), pp. 424, 433.

²Miss. Scient. Cap Horn, 6, Ois., pp. B 189, 191, 1891.

³Birds of Tierra del Fuego, pp. 94, 95, 1907.

and flanks are marked with broader, darker brown bands, being thus halfway between *picta* and *dispar*.

The coloration of the tail, which has been used as a criterion for the discrimination of two species, does not hold good, for we have of both the plain-breasted and barred phase specimens with white and others with black lateral rectrices.

Blaauw,¹ who still maintains two species of Upland Goose, has clearly shown the type of *Anas inornata* King² to be a young (in fresh plumage) of *C. "magellanica"* [= *picta*].³ Should the barred form—against my expectations—prove to be different, its proper name would be *C. picta dispar* (Philippi and Landbeck).

The breeding range of the Upland Goose comprises the southern section of Chile and Argentina, north to the Rio Negro. Peters⁴ found it a permanent resident in western Rio Negro, but in other parts it is probably migratory. Philippi and Landbeck tell us that it is a winter visitor to the central provinces of Chile. Its nesting there, however, has never been corroborated, as we have stated above.

219. *Dendrocygna bicolor* (Vieillot)

Anas bicolor Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 136, 1816—based on Azara, No. 436, Paraguay and Buenos Aires.

Dendrocygna fulva E. Reed (2), p. 562—"Velluco," O'Higgins, and Cauquenes, Colchagua; idem (4), p. 208—near Paine, O'Higgins; Salvadori, Cat. B. Brit. Mus., 27, p. 149, 1895—"Central Chile."

Range in Chile.—Accidental in the central provinces of O'Higgins and Colchagua.

The Fulvous Tree-duck appears to be an occasional visitor to Chile. Edwyn Reed reports that a single specimen killed by Salinas at "Velluco" in October was presented to the Museo Nacional at Santiago. A flock of strange ducks seen in November at Cauquenes, Colchagua, he believes to have been of the same species. In a later publication the same observer states that several examples were shot near Paine, in the province of O'Higgins. A single bird from "Central Chile" is in the H. Berkeley James Collection (British Museum)

¹Ibis, 1920, pp. 497-498.

²Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, "1830-31," p. 15, Jan. 6, 1831—"in Fretu Magellanico."

³Crawshaw (Birds of Tierra del Fuego, pp. 95-96, 1907) refers it to *C. hybrida*, but this can hardly be correct.

⁴Bull. Mus. Comp. Zool., 65, p. 300, 1923.

220. *Heteronetta atricapilla* (Merrem)

Anas atricapilla Merrem, in Ersch and Gruber, Allg. Encycl. Wissens und Kunst, 35, p. 26, 1811 based on Azara, No 138, Buenos Aires.

Anas melanoccephala Cassin, p. 202, pl. 25 interior of Chile; Pelzeln (2), p. 138 Chile; Germain, p. 315 central provinces; Selater (2), 1867, pp. 335, 340 Chile (note on female); Philippi (12), p. 282 Paine, Santiago; idem (24), p. 80 Santiago Province.

Heteronetta melanoccephala E. Reed (2), p. 563 Cauquenes, Colchagua; idem (4), p. 208- Chile; Lane, p. 192 Rio Pilmaiquen, Valdivia; Lataste (9), p. 172- Lake Aculeo, Santiago.

Range in Chile. -Central and southern provinces, from Santiago to Valdivia.

Very little is known regarding the distribution of the Black-headed Duck in Chile. Although it is included by Germain among ducks "breeding from September to October in the central provinces," Philippi states that the "Pato rinconero," as it is called by the natives, is very rare in Chile, and at the time of his writing he knew it only from the province of Santiago, specimens having been taken near Paine. Edwyn Reed lists it as uncommon for the Hacienda de Cauquenes, Colchagua. Lataste shot a single female on Lake Aculeo (Jan. 28, 1896), and the British Museum received a pair from near Santiago through F. Leybold, while A. Lane, on February 19, 1890, secured one on the Rio Pilmaiquen, Valdivia, where he believes this duck to be merely a visitor. Lord William Percy¹ purchased at Concepción a skin of this duck taken many years ago in that vicinity. Its parasitic nesting habits have but recently been discovered.²

Outside of Chile, *H. atricapilla* inhabits the northern parts of Argentina, Paraguay, Uruguay, and extreme southern Brazil (Rio Grande do Sul).

221. *Anas specularis* King³

Anas specularis King, Zool. Journ., 4, p. 98, 1828 Straits of Magellan; Des Murs (2), p. 450 - estuaries of rivers of Chile; Hartlaub (3), p. 217- Valdivia; Cassin, p. 202 Chile; Pelzeln (2), p. 138 Chile; Selater (2), 1867, pp. 335, 340 Chile; Philippi (12), p. 282 Straits of Magellan to Valdivia, rare farther north; E. Reed (2), p. 563 --Cauquenes, Colchagua (common); idem (4), p. 208- common in the south, rare in the lagoons of the Cordilleras of the central provinces; Lane, p. 192--Rio Pilmaiquen,

¹ Cf. Phillips, Nat. Hist. Ducks, 3, p. 96, 1925.

² Cf. Daguerre, El Hornero, 3, pp. 194, 252; Wilson, l. c., 3, p. 355.

³ Boetticher (Anz. Orn. Ges. Bay., 2, No. 1, p. 14, 1929) proposed the genus *Specularanas* for this species, but I agree with Wetmore (Univ. Calif. Pub. Zool., 24, p. 416, 1926) that both *A. specularis* and *A. cristata* may well be retained in the genus *Anas*.

Valdivia; Barros (4), p. 46 Nilahue, Curicó (winter visitor); Blaauw (1), p. 28 Peulla, Lake Todos Los Santos, Llanquihue; idem, Ibis, 1916, p. 485 near Lake Todos Los Santos.

Anas chalcoptera Kittlitz, Mém. Ac. Sci. St. Pétersb., (sav. étr.), 2, p. 471, pl. 5, 1835 -Valparaiso; Fraser (1), p. 119 rivers and lakes of Colchagua Province (rare); Kittlitz, Denkwurd., 1, p. 164- near Hacienda de Lagunilla, Valparaiso; Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 20, 1921- Valparaiso (note on type in Leningrad Museum).

Range in Chile.—From Valparaiso to the Straits of Magellan.

Material collected.—Llanquihue: Balseo, junction of Rios Simpson and Mañuales (alt. 200 feet), ♂ ad., ♀ ad., April 2; Estancia Aisen, Rio Coihaique, four ♂♂, two ♀♀ ad., Feb. 12-14; Casa de Richards, Rio Ñirehuau, two ♂♂, one ♀ ad., Feb. 19-21 (Collection of H. B. Conover).

Additional specimens. - Cautin: Huilío, Temuco, ♂ ad., July 26, 1916. A. C. Saldaña (Collection of H. B. Conover).

The "Pato antiojillo" or "Pato perro" of the natives is a common bird in the southern parts of Chile, from the Straits of Magellan north to Valdivia, where Ambrose Lane met with it along the Rio Bueno and its tributary, the Rio Pilmaiquen. Farther north it is reported to be much less common, and probably merely a winter visitor. A. C. Saldaña obtained specimens—in April and July—in the neighborhood of Temuco, Cautin. In the Nilahue Valley, Curicó, Barros found it wintering in small numbers. Both Bridges and Edwyn Reed mention the Spectacled Duck as occurring on the lagoons and rivers of the Cordilleras of Cauquenes, Colchagua, and from the observations of the first-named naturalist, who noticed these ducks always in pairs, their breeding in that district might be inferred. The most northerly record is from Valparaiso, where Kittlitz shot the type of *A. chalcoptera* early in April, doubtless a migrant from the south.

The members of the Field Museum Expedition found this duck fairly common in southern Llanquihue on the Rio Aisen and its affluents. Mr. Conover supplies the following note: "These ducks seem to like wooded swift-running streams, where they feed in the eddies and along the banks. It is a common thing to see them resting on the gravel bars or sitting on stones projecting out of the water. They also seem to like wooded brushy ponds and swamps, and go into open ponds near their favorite resorts, but apparently they do not like the open country. They are undoubtedly birds of the mountains, probably descending in winter to the coast of Chile, though I do not think that they ever go far into the pampa country. Their call is a very peculiar barking quack."

The breeding range of *A. specularis* apparently extends over both the Chilean and Argentine slopes of the Andes from 40° S. lat. to the Straits of Magellan.

222. *Anas cristata cristata* Gmelin

Anas cristata Gmelin, Syst. Nat., 1, (2), p. 540, 1789—based on "Crested Duck" Latham, Gen. Syn. Birds, 3, (2), p. 543, Staten Island; Des Murs (2), p. 149—central provinces; Germain, p. 314—Cordilleras of Santiago (nesting habits); Pelzeln (2), p. 138—Chile; Sclater (2), 1867, pp. 335, 340—Chile; Philippi (12), p. 281—Cordilleras of Chile; E. Reed (2), p. 563—Cordillera of Cauquenes, Colchagua; idem (1), p. 208—Chile.

Anas pyrrhogastra Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 119, pl. 25, 1834—Maipo, Santiago.

Dafila pyrogaster Fraser (2), p. 157—Chile.

Range in Chile.—From Santiago to the Straits of Magellan.

Material collected.—Argentina, Terr. del Chubut (near Chilean boundary): Arroyo Verde, four ♂♂ ad., two ♀♀, March 17 (Collection of H. B. Conover).

The Crested Duck, "Pato Juarjua" of the Chileans, is stated to be not uncommon in the central and southern parts of Chile. In the central provinces (Santiago, Colchagua) it breeds in the elevated Cordilleras, but repairs to lower altitudes in winter. Farther south, however, it is found nearly down to sea level in the breeding season.

The Field Museum Expedition did not meet with this duck in Chile proper, but obtained a small series east of Casa de Richards on Argentine territory, where, according to Conover's observations, they were fairly plentiful on the ponds on the road to Arroyo Verde and in the Arroyo Verde itself. Mr. Conover believes that he saw this bird also at Rio Ñirehuau.

The specimens collected agree with others from the Rio Gallegos, Patagonia (wing 260-270 mm.).

A. c. cristata inhabits the southern part of the Andes from Santiago and Lake Nahuel Huapi south to the Cape Horn region and the Falkland Islands.

223. *Anas cristata alticola* Ménégaux

Anas cristata alticola Ménégaux, Bull. Soc. Philom. Paris, (10th ser.), 1, p. 224, 1909—Lake Poopo, Oruro, Bolivia.

Anas cristata Sclater (4), 1886, p. 401—Sitani, Sacaya, and Huasco, Tarapacá (eggs descr.); Philippi, Ornith., 4, p. 160—Pastos Largos, Atacama; Lane, p. 192—Sacaya, Sitani, and Lake Huasco, Tarapacá.

Range in Chile.—In northern provinces, from Atacama to Tarapacá.

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), one ♂ ad., two ♂♂, two ♀♀ (downy) juv., Oct. 6, 1923.

The adult bird differs from the preceding form by larger size (wing 310 mm.), heavier bill, and whiter, less spotted under parts, and agrees closely with a male from Laguna de Taxara, Tarija, Bolivia.

Birds from Tarapacá examined in the British Museum appear to be similar, while others from Peru are again more brownish below.

A. c. alticola is an inhabitant of the Puna Zone. Lane found it common in the Andes of Tarapacá; it nested at Huasco and Sacaya from January to March in rushes and sedge, preferring little islands in the midst of ponds; the clutch consisted usually of five or six eggs. Sanborn, on October 6, secured downy young east of San Pedro, which indicates an earlier breeding season for Antofagasta. Philippi's record of *A. cristata* from Pastos Largos is doubtless referable to the present form.

224. *Mareca sibilatrix* (Poeppig)

Anas sibilatrix Poeppig in Froriep's Notiz. Geb. Natur- und Heilkunde, No. 529 [=25, No. 1], p. 10, July, 1829—Talcaguano, Concepción.

Anas chilensis King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, p. 15, Jan. 6, 1831—"in insulâ Chiloé."

Mareca chilensis Fraser (1), p. 119—Chile; Des Murs (2), p. 447—provinces of Santiago, Chiloé, etc.; Bibra, p. 131—Chile; Cassin, p. 201—Chile; Germain, p. 315—central provinces; Pelzeln (2), p. 138—Chile; Sclater (2), 1867, pp. 335, 339—Chile; Philippi (12), p. 281—rare in Chiloé and Valdivia, "more common" in the central provinces.

Mareca chilensis Frauenfeld, p. 638—Lake Aruleo, Santiago; Lataste (1), p. CXV—Cauquenes, Colchagua; idem (5), p. LXII—San Carlos, Ñuble.

Mareca sibilatrix E. Reed (2), p. 564—Cauquenes, Colchagua; Sharpe, p. 13—Coquimbo; E. Reed (4), p. 208—Chiloé (common), rarer farther north; Lane, p. 194—Rio Pilmaiquen, Valdivia, and Chiloé Archipelago; Schalow (2), p. 674—Concepción; Bullock (4), p. 205—Angol, Malleco.

Range in Chile.—From Coquimbo to the Straits of Magellan.

Material collected.—Chiloé Island: Cucao, three ♂♂ ad., one ♀ ad., one ♀ imm., three (downy) juv., Dec. 22-27.—Llanquihue: Casa de Richards, Rio Ñirchuan, ♂ ad., ♀ ad., ♂ juv., ♀ juv., Feb. 21 to March 6 (Collection of H. B. Conover).

The Chilean Widgeon, the "Pato Real" of the natives, is very common in the southern provinces. The Field Museum party found

it plentiful on Chiloé Island, where it was breeding and several downy young were taken. Ambrose Lane did not meet with any of these ducks north of Valdivia, and even about the Rio Bueno they were seen in flocks, as if they had come from some breeding-haunt. They are also reported to breed in the central provinces, but in much smaller numbers than in the south (Edwyn Reed). The most northerly locality on record is Coquimbo, where Coppinger shot a single specimen in June, probably a migrant.

The range of *M. sibilatrix*, outside of Chile, comprises the greater part of Argentina, Paraguay, Uruguay, and the extreme south of Brazil (Rio Grande do Sul).

225. *Nettion flavirostre flavirostre* (Vieillot)

Anas flavirostris Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 107, 1816—based on Azara, No. 439, Buenos Aires.

Querquedula creccoides Fraser (1), p. 118—Chile; Des Murs (2), p. 453—Chile to Straits of Magellan; Cassin, p. 203, pl. 26—abundant in Chile; Germain, p. 315—central provinces; Selater (2), 1867, pp. 333, 340—Chile; Philippi (12), p. 282—Chile; Lataste (5), p. LXII—San Carlos, Ñuble.

Querquedula oxyptera (not of Meyen) Hartlaub (3), p. 217—Rio de Valdivia; Bibra, p. 131—Santiago; Pelzeln (2), p. 138—Chile.

Querquedula flavirostris E. Reed (2), p. 562—Cauquenes, Colchagua; idem (4), p. 208—Chile; Housse (1), p. 54—Isla La Mocha, Arauco; Bullock (4), p. 206—Angol, Malleco.

Nettion flavirostre Blaauw, Ibis, 1916, p. 487—Lake Todos Los Santos, Llanquihue.

Range in Chile. - From Santiago to the Straits of Magellan.

Material collected. - Chiloé Island: Lago Huillinco, ♂ ad., Dec. 21; Cucao, two ♂♂, three ♀♀, Dec. 23 Jan. 14; Rio Inio, two ♂♂ ad., three (downy) juv., Jan. 7 10. Llanquihue: Casa de Richards, Rio Ñirehuau, ♂ ad., ♀ ad., Feb. 17, 21 (Collection of H. B. Conover).

The "Pato jergon chico," as it is called by the Chileans, appears to be most abundant in the southern parts of the republic. The Field Museum party found it common on Chiloé Island. Mr. Conover supplies the following note: "Fairly common at Rio Inio. On January 10, in the mouth of a small fresh water creek where it emptied onto the beach, we found a brood of about six or eight downy young accompanied by both old birds. The female took up the bank into the bush, the young attempting to follow. Broods of fully grown young were also seen at this time perfectly able to fly, but apparently loath to unless absolutely necessary. When pursued by a boat,

they would run along the edge of the mud flats like shore-birds. Like all teals these birds seem partial to mud flats. Also seen at the Puerto Aisen and common around the Rio Nirehuau. Found in the lagoons, still running rivers and also in parts of the swift streams with the Spectacled Duck." Its range evidently extends throughout the republic as far north at least as Santiago, where Bibra reports to have met with it on all the lakes in the vicinity of the capital.

It is also widely distributed in Argentina and Uruguay, and stretches into extreme southern Brazil (Rio Grande do Sul).

226. *Nettion flavirostre oxypterus* (Meyen)

Anas oxyptera Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 121, pl. 26, 1834—eastern slope of the South Peruvian Andes toward Lake Titicaca.

Querquedula angustirostris Philippi and Landbeck, Anal. Univ. Chile, 21, p. 439, Nov., 1862 Laguna "Cucullata," Tacna; idem, Arch. Naturg., 29, (1), p. 202, 1863 Laguna "Cucullata," Tacna; Philippi, Ornith., 4, p. 160—"Calalaste," Antofagasta; idem (24), p. 78 Laguna "Cucullata" (crit.).

Querquedula oxyptera Sclater (4), p. 401—Sitani, Huasco, and "Lalcalhuay," Tarapacá (eggs descr.); idem (6), p. 136—Sacaya, Tarapacá; Lane, p. 193—Sacaya; E. Reed (1), p. 208—Tarapacá.

Range in Chile.--Puna Zone of northern Chile, from Tacna to Antofagasta.

Material collected. —Tacna: Chungará (alt. 15,150 feet), ♂ ad., June 25.—Antofagasta: Rio Loa (alt. 9,000 feet), ♂ ad., Sept. 11.

Chilean birds are obviously not different from Peruvian examples. The male from Chungará is practically a topotype of *Q. angustirostris*. While correctly recognizing the distinctness of the northern form, Philippi and Landbeck erred in referring Meyen's term to the Yellow-billed Teal of central and southern Chile, and, by describing *Q. angustirostris*, merely renamed *Anas oxyptera*.

Meyen's Teal is clearly but a northern race of *N. flavirostre*. The principal points of difference are larger size, stronger bill with the two colors more abruptly contrasted, paler dorsal surface, and less spotted under parts. It replaces the typical race in northwestern Argentina, northern Chile, Bolivia, and the greater part of Peru.

Another member of this group is *N. f. andium* (Sclater and Salvin), of Ecuador, Colombia, and western Venezuela. In dark coloration and heavy spotting below, it shows a reversion to the characters of *N. f. flavirostre*, but the edgings to the scapulars are

grayish buff instead of rufescent, while the wholly black bill serves to distinguish it from either of its allies.

In opposition to its southern representative, *N. j. oxypterus* is restricted to the Puna Zone. In northern Chile its vertical range extends from 9,000 to 15,000 feet.

[*Nettion brasiliense* (Gmelin), included in the Chilean fauna by Gay (p. 451) s. n. *Querquedula ipeculiri*, though widely distributed in South America, has never been taken in Chile proper.]

227. *Paecilonitta bahamensis rubrirostris* (Vieillot)

Anas rubrirostris Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 108, 1816—based on Azara, No. 433, pampas of Buenos Aires.

Dafila urophasianus Bridges, p. 95—valleys on the eastern side of the Andes; Fraser (2), p. 157—Chile.

Dafila bahamensis Des Murs (2), p. 448—Chile; Cassin, p. 203—Chile; Philippi and Landbeck (1), p. 284; idem (2), p. 33—Chile (crit.); Selater (2), 1867, pp. 335, 340—Chile; Philippi (12), p. 281—Chile; E. Reed (2), p. 563—Colchagua (rare); idem (4), p. 208—Chile (rare).

Poecilonetta bahamensis Barros (4), p. 46—Nilahue, Curicó.

Range in Chile.—Central provinces, from Santiago to Curicó.

The Bahaman Pintail is of very irregular occurrence in Chile. According to Philippi and Landbeck, it is quite common in some years in winter and practically absent in others. They quote Dr. Carlos Segeth, a local naturalist, as saying that during his long residence in Chile he had seen only eight specimens. Edwyn Reed mentions it as very rare for Colchagua, while R. Barros states that sometimes a few pairs breed in the Nilahue Valley, Curicó.

A single specimen from Chile (locality not specified) agrees in size with the large southern race distinguished by Bangs¹ under Vieillot's name.

228. *Paecilonitta spinicauda* (Vieillot)²

Anas spinicauda Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 135, 1816—based on Azara, No. 429, Buenos Aires.

Anas oxyura Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 122, 1834—Chile; Des Murs (2), p. 449—Chile; Cassin, p. 202—Chile; Frauenfeld, p. 638—Lake Aculeo, Santiago; Philippi (12), p. 281—Chile;

¹Proc. New Engl. Zool. Cl., 6, p. 89, 1918.

²I quite agree with Mr. Bangs (Proc. New Engl. Zool. Cl., 6, p. 88, 1918) that, as long as the two genera are separated, the Chilean Pintail should be referred to *Paecilonitta* rather than *Dafila*.

idem, *Ornis*, 4, p. 160—Antofagasta; Lataste (1), p. CXV—Cauquenes, Colchagua; idem (5), pp. LXII, LXIII—San Carlos, Ñuble; Waugh and Lataste (1), p. LXXXIX—Peñaflor, Santiago.

Anas bahamensis ? (errore) Fraser (1), p. 119—Chile (common); Yarrell, p. 54—Chile (eggs descr.).

(?) *Dafila bahamensis* Germain, p. 314—Santiago (breeding habits); Pelzeln (2), p. 138—Chile (egg, descr.); MacFarlane, *Ibis*, 1887, p. 203—Arica.

Dafila oxyura Selater (2), 1867, pp. 335, 340—Chile.

Dafila spinicauda E. Reed (2), p. 563—Rio Cachapoal, Colchagua; Sharpe, p. 14—Talcaguano; Selater (4), 1886, p. 402—Sitani, Tarapacá; idem (6), 1891, p. 136—Sacaya, Tarapacá; E. Reed (4), p. 208—central provinces; Lane, p. 194—Rio Pilmaiquen, Corral, and Rio Bueno (Valdivia), and Sacaya, Tarapacá (habits); Schalow (2), p. 674—Ovalle, Coquimbo; Barros (4), p. 46—Ñilhue Valley, Curicó; C. Reed (4), p. 56—Rio Cachapoal, Colchagua (food); Housse (2), p. 150—San Bernardo, Santiago; Passler (3), p. 446—Coronel (breeding habits); Blaauw, *Ibis*, 1916, p. 487—Lake Todos Los Santos, Llanquihue; Jaffuel and Pirion, p. 113—Marga-Marga, Valparaíso; Bullock (4), p. 206—Angol; Barros (10), p. 357—Aconcagua.

Range in Chile.—From Tarapacá to the Straits of Magellan.

Material collected. —Antofagasta: Rio Loa, ♂ ad., Sept. 12.—Llanquihue: Casa Richards, Rio Ñirehuau, two ♂♂ ad., two ♀♀ ad., one ♂ imm., two ♀♀ imm., Feb. 17–March 9 (Collection of H. B. Conover).

The “Pato jergon grande” is the commonest duck in Chile, and occurs in suitable places throughout the republic from the northern boundary south to the Straits of Magellan. In the Cordillera of Tarapacá, in the extreme north of Chile, it ascends as high as 12,000 feet, and breeds from October to February. The nest is placed amongst sedge or bushes and contains from four to six eggs, which are described as being closely similar to those of the Bahaman Pintail, with which the present species has been frequently confused by the earlier writers on Chilean ornithology. Fraser’s and Yarrell’s records of *A. bahamensis*, based on Bridges’s collections, unquestionably refer to *P. spinicauda*, and so do probably Germain’s, Pelzeln’s and MacFarlane’s.

Birds from Antofagasta and Bolivia (Tarija) appear to be somewhat whiter underneath than the series from southern Chile, which agrees with topotypes from Buenos Aires.

P. spinicauda is widely diffused in southern South America, ranging in the west north to Ecuador.

229. *Querquedula versicolor versicolor* (Vieillot)

Anas versicolor Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 109, 1816—based on Azara, No. 140, Paraguay.

Cyanoparus fitchensis Fraser (?), p. 157—Chile.

Querquedula maculirostris Des Murs (?), p. 152—Chile to Straits of Magellan; Philippi (12), p. 282—Chile.

Petrocyanea maculirostris Bibra, p. 132—Chile; Pelzeln (?), p. 139—Chile.

Querquedula versicolor Cassin, p. 203—vicinity of Santiago; Germain, p. 315—central provinces; Sclater (?), 1867, pp. 335, 340—Chile; E. Reed (?), p. 563—Cauquenes, Colchagua (rare); idem (?), p. 208—Chile; Lane, p. 193—junction of Rio Pilmaiquen and Rio Bueno, Valdivia; Schalow (?), p. 675—Concepción.

Range in Chile. Central and southern provinces, from Santiago to the Straits of Magellan.

Material collected.—Llanquihue: Casa de Richards, Rio Ñirehuau, eight ♂♂, three ♀♀ ad., Feb. 19 March 6 (Collection of H. B. Conover).

These specimens are identical with others from Argentina.

Very little precise information is available regarding the distribution of the "Pato capuchino" in Chile, where it is said to be very rare. The United States Astronomical Expedition obtained several specimens near Santiago. Ambrose Lane shot a single adult male on the Rio Pilmaiquen, Valdivia, on January 4, 1890, and L. Plate secured one at Concepción in September, 1894. According to Edwyn Reed, it is extremely rare at Cauquenes, Colchagua, though Germain lists it among the species breeding in the central provinces. About Rio Ñirehuau Mr. Conover found the Gray Teal very common in the marshes. He noted that the male has an enlargement of the windpipe very similar to that of Barrow's Golden-eye.

Q. v. versicolor is widely diffused throughout Argentina, Paraguay, Uruguay, and southern Brazil (Rio Grande do Sul).

230. *Querquedula versicolor puna* (Tschudi)

Anas puna (Lichtenstein MS.) Tschudi, Arch. Naturg., 10, (1), p. 315, 1844—Peru.

Querquedula puna Sclater (?), 1886, p. 401—Sitani and Sacaya, Tarapacá (eggs descr.); Philippi, Ornith., 4, p. 160—Antofagasta; Sclater (?), 1891, p. 136—Sacaya, Tarapacá; E. Reed (?), p. 208—Tarapacá; Lane, p. 193—Sacaya and Cancosa, Tarapacá.

Range in Chile.—Puna Zone of northern Chile, from Tacna to Antofagasta.

Material collected. --Antofagasta: twenty miles east of San Pedro, ♂ ad., Sept. 17.

This northern representative differs from the Gray Teal by larger size; stronger bill with the basal spot to the upper mandible light blue instead of orange; more deeply black pileum; less heavily marked back; plain brownish (unmarked) rump; narrower and much less distinct barring on both upper tail coverts and abdomen, etc.

Chilean specimens, of which some additional ones from Tarapacá have been examined in the British Museum, appear to agree with a Peruvian series.

Within Chile, this teal is found only at high elevations of the Cordilleras from Antofagasta northwards.¹

231. *Querquedula cyanoptera cyanoptera* (Vieillot)

Anas cyanoptera Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 104, 1816—based on Azara, No. 434, La Plata River and Buenos Aires.

Querquedula caeruleata Fraser (1), p. 118 lakes and rivers of Chile; Yarrell, p. 54 - Chile (eggs descr.).

Querquedula caeruleata Des Murs (2), p. 452 Chile; Hartlaub (3), p. 217—Valdivia; Boeck, p. 511 -Valdivia; Germain, p. 315 -central provinces; Frauenfeld, p. 638 - Lake Aculeo, Santiago; Philippi (12), p. 282 -Chile; Lataste (5), pp. I.XII, LXIII -San Carlos, Ñuble.

Anas caeruleata Bibra, p. 131 - lakes near Santiago (common).

Querquedula cyanoptera Cassin, p. 202 -Chile; Selater (2), 1867, pp. 335, 340--Chile; E. Reed (2), p. 563 - Cauquenes, Colchagua; Sharpe, p. 14--Talcaguano; E. Reed (4), p. 208 central provinces; Lane, p. 193--part, southern provinces; Schalow (2), p. 676 Ovalle and La Serena, Coquimbo; Housse (3), p. 227 Isla La Mocha, Arauco; Passler (3), p. 447--Coronel; Barros (8), p. 142 Nihue, Curicó; Bros, p. 381- Marga-Marga, Valparaíso.

Pterocyanca coerulescens Pelzeln (2), p. 139 Chile.

Querquedula discors (errore) Schalow (2), p. 675 Ovalle, Coquimbo.

Range in Chile. From Coquimbo to the Straits of Magellan.

Material collected. Llanquihue: Casa de Richards, Río Ñirehuau, two ♂♂ ad., one ♀, March 16 (Collection of H. B. Conover).

Additional specimens.—Santiago: vicinity of Santiago, ♂ ad. F. Leybold. --Colchagua: Cauquenes, ♂ (eclipse), ♀ ad. E. C. Reed.—Concepción: Talcaguano, ♀ ad., Sept. 22, 1879. Coppinger. —“Central Chile:” two ♂♂ ad., one ♂ (eclipse). H. Berkeley James Collection (all in the British Museum).

¹A specimen in the Paris Museum said to be from “Santiago” (C. Gay) is no doubt incorrectly labeled.

Specimens from central and southern Chile appear to me inseparable from a North American series. Their wings range from 180 to 195 mm.

According to Edwyn Reed, the Cinnamon Teal is one of the commonest ducks in the central provinces. Bibra noted it as abundant on the lakes in the vicinity of Santiago, and Reed has the same remark with respect to its occurrence at Cauquenes, Colchagua. Frauenfeld observed it on Lake Aculeo, Santiago. Lataste found it breeding at San Carlos, Ñuble, and Barros in Ñilahué, Curicó, while Schalow lists specimens from Coquimbo. Dr. Stresemann informs me that the female taken by Plate at Ovalle, which Schalow refers to *Q. discors*, belongs likewise here. Lane, who found it in the southern provinces, was told that at certain seasons it is numerous in Chiloé.

The Cinnamon Teal is also widely distributed in Argentina, Uruguay, Paraguay, and southern Brazil (Rio Grande do Sul).

232. *Querquedula cyanoptera orinomus* Oberholser

Querquedula orinomus Oberholser, Proc. Biol. Soc. Wash., 19, p. 93, 1906—"Puna" [=Puno], Lake Titicaca, alt. 12,250 feet, Peru.

Querquedula caeruleata Philippi, Ornith., 4, p. 160—Antofagasta.

Querquedula cyanoptera Sclater (4), 1886, p. 401—Sitani and Sacaya, Tarapacá; idem (6), 1891, p. 136—Sacaya, Tarapacá; Lane, p. 193—part, Tarapacá.

Range in Chile.—Puna Zone of Antofagasta, Tarapacá, and Tacna.

Material examined. —Tarapacá: Sacaya, ♂ ad., ♂ (eclipse), three ♀♀ ad., one ♀ imm., Jan. 25, Feb. 8, March 13. C. Rahmer and A. A. Lane; Sitani, two ♂♂ ad., Jan. 15, 20, 1886. C. Rahmer (all in the British Museum).

Re-examination of the material in the British Museum shows the Cinnamon Teal breeding in the highlands of Tarapacá to be referable to *Q. c. orinomus*, originally based upon a single adult male from Lake Titicaca. When compared with typical *cyanoptera*, the wings are considerably longer: 215–223 in males, 205–223 in females (against 180–195 in *cyanoptera* of central Chile), and the tarsi are also longer as well as stouter. The bill is sometimes, though not always, larger. Females are deeper buffy brown on the chest and sides of the head, the latter being generally more heavily marked with dusky. Males, however, do not seem to differ in coloration, rump and upper tail coverts being by no means more banded with buff

than in *cyanoptera*. Three adult males from Tarapacá, it is true, have no trace of black on the chin, but similar specimens also occur in the range of the typical race.

According to Ambrose Lane, this species is not quite so numerous in the Andes of Tarapacá as the other ducks and more local. It nests at Sacayn about January in sedge or rushes.

The development of an altitudinal representative of the Cinnamon Teal in a comparatively restricted area of southern Peru and northern Chile is of unusual interest. We have seen that birds of the more southern parts of Chile and adjacent countries, where they are usually found at low elevations, are nowise different from North American examples.

233. *Spatula platalea* (Vieillot)

Anas platalea Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 157, 1816—based on Azara, No. 431, Buenos Aires and Paraguay.

Dafila caesiocapula Reichenbach, Vollst. Naturg. Schwimmvog., Natatores, pl. 51, fig. 180, between 1815 and 1848—no locality.

Dafila caesiocapulata Bibra, p. 131 lakes round Santiago.

Rhynchaspis maculatus Fraser (1), p. 118—Chile; Yarrell, p. 54—Chile (eggs descr.); Des Murs (2), p. 454—Chile (ex Fraser); Germain, p. 315—central provinces; Philippi (12), p. 283—rare in the south, common in the central provinces; Lataste (1), p. CXV—Cauquenes, Colchagua; idem (5), p. LXII—San Carlos, Nuble; Waugh and Lataste (1), p. LXXXIX—Peñaflor, Santiago.

Spatula (Rhynchaspis) maculata Pelzeln (2), p. 139—Chile.

Spatula platalea Selater (2), 1867, pp. 335, 340—Chile; E. Reed (2), p. 564—Cauquenes, Colchagua (rare); idem (4), p. 208—Chile; Lane, p. 195—Rio Pilmaiquen and Rio Bueno, Valdivia; Bullock (4), p. 207—Angol, Malleco.

Range in Chile. Central and southern provinces, from Santiago to the Straits of Magellan; accidental in Tarapacá.

Material collected. Llanquihue: Casa de Richards, Rio Ñirehuau, one ♂ ad., two ♀ ♀ ad., March 10 (Collection of H. B. Conover).

These specimens agree with others from Buenos Aires.

The "Pato cucharu" is reported to be fairly common in the central provinces, though rare in the south. Lataste and Waugh record it as not uncommon at Peñaflor (Santiago) and Cauquenes (Colchagua), while Bibra lists it as fairly plentiful on the lakes near Santiago. Lane found these ducks numerous near Valdivia from December to March, where they probably breed. Mr. Conover (MS.) noted them in some numbers on certain ponds on the Rio

Ñirehuau. In Tarapacá, whence the British Museum has a young female, if correctly labeled, the species would seem to be merely of accidental occurrence, though it is known to inhabit the highlands of Bolivia and southern Peru. Besides, it is widely diffused in Argentina, Paraguay, and Uruguay.

234. *Metopiana peposaca* (Vieillot)

Anas peposaca Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 5, p. 132, 1816—based on Azara, No. 430, Paraguay and Buenos Aires.

Anas metopias Poeppig in Froriep's Notiz. Geb. Natur- und Heilkunde, No. 529 [=25, No. 1], p. 9, 1829—"rarissima in Chile."

Fuligula metopias Des Murs (2), p. 456 Chile (ex Poeppig); Hartlaub (3), p. 217—Rio de Valdivia; Cassin, p. 204, pl. 27—Chile; Germain, p. 315—central provinces; Philippi (12), p. 283—common in the central provinces, rare in the south.

Fuligula albipennis Bibra, p. 132 Chile; Pelzeln (2), p. 139 Chile.

Fuligula peposaca Slater (2), 1867, pp. 335, 340—Chile.

Metopiana peposaca E. Reed (2), p. 564—Cauquenes, Colchagua (not common); idem (4), p. 208—Chile; Schallow (2), p. 674 Concepción; Salvadori, Cat. B. Brit. Mus., 27, p. 332, 1895—Santiago and Rio Pilmaiquen, Valdivia.

Range in Chile.—From Santiago to Valdivia.

The "Pato negro" is stated to be fairly common in the central provinces, where it is supposed to breed. Various specimens have been taken in the vicinity of Santiago. According to Edwyn Reed, it is by no means plentiful in Colchagua. Schallow records a single example taken by Plate in September at Concepción. Lane shot a young male in February on the Rio Pilmaiquen, Valdivia, and Hartlaub lists the species from the Rio de Valdivia, which marks the southern limit of its range in Chile.

Its extralimital area comprises the northern parts of Argentina, Uruguay, Paraguay, and the extreme south of Brazil (Rio Grande do Sul).

235. *Nyroca erythrophthalma* (Wied)

Anas erythrophthalma Wied, Beitr. Naturg. Bras., 4, (1), p. 929, 1832—Villa Belmonte, southern Bahia, Brazil.

Fuligula nationi MacFarlane, Ibis, 1887, p. 203—Arica.

Range in Chile.—Extreme northern section (once recorded from Arica, Tacna).

MacFarlane shot specimens in a marsh about five miles inland of Arica in October, 1883, this being the only record of this pochard from Chile.

Although the correctness of the identification has been questioned, the occurrence of this duck around Arica is not at all unlikely, since the late Professor Nation obtained it near Lima.

There seems to be hardly any doubt that *A. erythrophthalma* is the earliest name for this species, long known as *Fuligula nationi*. No fresh material from eastern Brazil is available, but birds from that part of South America are not likely to be different, since specimens from Venezuela (Lagunillas) and various localities in Africa (Upper Luapula, Katanga, Belgian Congo; Marsabit, Kenya; Ruanda, Uganda) prove to be inseparable one from another.

236. *Tachyeres brachypterus* (Latham)¹

Anas brachyptera Latham, Ind. Orn., 2, p. 834, 1790—new name for *Anas cinerea* Gmelin, 1789 (not of S. G. Gmelin, 1774),² Falkland Islands.

Micropterus cinereus Des Murs (2), p. 457—Chiloé to Straits of Magellan; Boeck, p. 511—Bay of "Arend" [=Ancud], Chiloé; German, p. 315—archipelago of Chiloé (nesting habits); Pelzeln (2), pp. 139, 163—Chiloé; Selater (2), 1867, pp. 335, 340—Chile (ex Pelzeln); Philippi (12), p. 283—Straits of Magellan to Valdivia.

Tachyeres cinereus E. Reed (4), p. 208—Straits of Magellan to Valdivia; Lane, p. 195—Corral, Valdivia; Schalow (2), p. 672—Calbuco, near Puerto Montt, Llanquihue (in part); Passler (1), p. 103—Ancud, Chiloé; Stresemann, Ornith. Monatsber., 35, p. 47, 1927—Calbuco (crit.); Chapman, Bull. B. O. C., 46, p. 120, 1926—between Puerto Montt and the Guaitecas Islands.

Range in Chile. Southern provinces, from the Straits of Magellan north to Valdivia.

Material collected.—Chiloé Island: Rio Inio, one ♂ ad., three ♀ ♀ ad., Jan. 12-16. —Guaitecas Islands: Canal Lagrèze, Ascension Island, one ♂ (in down), Feb. 4; Melinka, Ascension Island, ♂ (downy) juv., Jan. 20 (Collection of H. B. Conover).

The adults from the Rio Inio, non-flying birds, are conspicuous for their light grayish head and enormous bill which is for the greater part yellow (orange at base in life) in both sexes. The male weighed twelve, the females eight and a half pounds. They thus correspond to what Oustalet, Blaauw and others call *T. cinereus*, i.e. the heavily built, short-winged, non-flying "species."

¹As pointed out by Philippi (Zeits. Ges. Naturwiss., Neue Folge, 7 [=41], p. 125, 1873), it seems very probable that the Steamer-Duck was intended by Molina, when he described *Diomedea chilensis* (Saggio Stor. Nat. Chile, pp. 239, 344, 1782) from the Archipelago of Chiloé, though beyond the native name "Quethu" [=Quetrú] the description contains hardly anything to permit the identification of the bird.

²See Collin, Ornith. Monatsber., 35, p. 54, 1927.

Two specimens are molting their wings. Those with fully developed remiges measure 260 (male) and 240 (female) respectively. All have a distinct vinaceous tinge along the middle of the throat.

According to Mr. Conover, no flying birds were seen at Chiloé or Melinka at the time of his visit (January and February). "At Rio Inio, these ducks were very numerous, sitting on the rocks and along the beaches. Only one pair with young were seen, these on January 21st. The young were not over a couple of weeks old, but very fine divers. On being pursued, the ducklings scattered and dove, while the old birds hung off about 150 yards, grunting anxiously." Chapman also states that among the hundreds of Steamer-Ducks, many accompanied by recently hatched young, observed by him in January, 1924, in the Guaitecas, not one was seen to fly. Rollo H. Beck, however, while collecting for the American Museum of Natural History, saw large numbers of flying individuals off Chiloé in May and June, 1914. Of three specimens collected by L. Plate in December, 1894, at Calbuco, near Puerto Montt, Stresemann refers one, a male, to the present species, and the two others to the flying *T. patachonicus*.

Ambrose Lane noticed some of these ducks in the Bay of Corral about October and November, and Philippi also lists the species from Valdivia, which obviously forms the northern limit of its range. The "Quetrú" is reported as exceedingly common in the Straits of Magellan.

237. *Tachyeres patachonicus* (King)

Oidemia patachonica King, Zool. Journ., 4, p. 100, 1828—Straits of Magellan = western part of the Straits (cf. King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, p. 15, 1831).¹

Tachyeres cinereus Schalow (2), p. 672 Calbuco, near Puerto Montt (in part); Stresemann, Ornith. Monatsber., 35, p. 47, 1927 Calbuco (crit.).

Micropterus cinereus Philippi (24), p. 81 Cordillera of Villarica, Valdivia.

Range in Chile.—Southern provinces, from the Straits of Magellan north to Chiloé Island; occasionally in Valdivia (Villarica).

Material collected.—Llanquihue: Balseo, junction of Rios Simpson and Mafiuales, near Puerto Aisen (alt. 200 feet), one ♂, April 2.—Chubut: Arroyo Verde, near Chilean boundary, two ♂♂, two ♀♀, March 18 (Collection of H. B. Conover).

These birds, when compared with the series from Chiloé Island, have much smaller (shorter as well as slenderer) bills, a darker,

¹The type is supposed to be in the Edinburgh Museum (cf. Gibson, Proc. Roy. Phys. Soc. Edin., 4, pp. 185-186, 1877).

decidedly brownish head, and are also darker on the back; the vinaceous tinge on the throat is deeper in tone and more extensive. Except for their darker bills and the absence of rufous on the chest, they correspond to the plate of *M. patachonicus* in Oustalet's report.¹ The color of the bills appears to be due to post-mortem change, for Mr. Conover noted it on the fresh specimens as "yellowish orange" or "greenish yellow, bluish about nostrils."

Much has been written about the Steamer-Ducks, and the question whether the flying individuals really constitute a different species is far from being settled. This problem, I believe, can only be satisfactorily solved by continued observations in the field. Cunningham, it will be recalled, considered them all to belong to one species, and attributed the loss of the power of flight to age. Oustalet, however, took the opposite stand, and endeavored to prove the specific distinctness of the flying and flightless birds. More recently, Blaauw (*Ibis*, 1916, pp. 488-492) and Bennett (*Ibis*, 1920, pp. 327-328) have expressed similar views, and Mr. Conover, who observed the flying bird at various points from inland of Puerto Aisen to the Chilean-Chubut boundary, also is inclined to admit two species.

The flying birds are said to be partial to fresh-water lakes and ponds, and the Andean lakes Nahuel Huapi, Todos Los Santos, Lago Argentino, etc., are reported to harbor exclusively the flying "species."

In Chile *T. patachonicus* was observed by the Field Museum party only on the Rio Aisen; but, as stated under the preceding heading, flying birds have been met with by R. H. Beck in May and June, 1914, off Chiloé, and Stresemann refers two specimens secured by L. Plate in December, 1894, at Calbuco, near Puerto Montt, to the present "species." Philippi records an example from the Cordillera of Villarrica, Valdivia, which no doubt belongs here rather than to *T. brachypterus*.

238. *Erismatura ferruginea* Eyton²

Erismatura ferruginea Eyton, Monog. Anat., p. 170, 1838—Chile (types in British Museum examined); (?) Fraser (1), p. 119—Lake of Quintero, Valparaiso; Des Murs (2), p. 458—lakes of central Chile; (?) Bibra, p. 132—lakes around Santiago; Cassin, p. 204—Chile; Pelzeln (2), p. 139—Chile; Selator (2), 1867, pp. 335, 340—Chile (part); Philippi (12), p. 283—lakes

¹Miss. Scient. Cap Horn, 6, Ois., pl. 5.

²The two Chilean lake-ducks having frequently been confused, it is impossible to properly allocate any reference without re-examination of the respective specimens. Some of the quotations included here in the synonymy of *E. ferruginea* may actually belong to *E. vittata*.

of central Chile (part); (?) F. Reed (2), p. 564 Laguna de Cauquenes, Colchagua; Philippi, Ornith., 4, p. 160 Antofagasta; F. Reed (4), p. 208—Chile (part); (?) Housse (2), p. 150 San Bernardo, Santiago.

Nomonyx dominicus (errore) Schalow (2), p. 672—part, No. 208, Concepción (June).

Range in Chile. —From Antofagasta to Llanquihue. Breeding range unknown.

Material collected.—Malleco: Lake Malleco (alt. 3,500 feet), ♂ ad. (nuptial), Jan. 20, 1924.—Llanquihue: Casa de Richards, Río Ñirehuau, ♂ juv., three ♀ ♀ juv., Feb. 24–March 6, 1923.

Additional specimens.—“Chile” (unspecified): ♂ ad., juv. C. Crawley. Types of species (British Museum).—Concepción: Penco, ♀ ad., June, 1905. C. S. Reed (Tring Museum).

Very little is known about the distribution of the lake-ducks in Chile. Salvadori¹ refers all Chilean birds to *E. vittata*, restricting the range of *E. ferruginea* to Peru and Bolivia. The adult male (in full nuptial plumage) taken by Sanborn on the shore of Lake Malleco, however, is in every particular typical of *E. ferruginea*, agreeing, as it does, in size and coloration with the type in the British Museum and a series from the Andes of Peru (Lake Titicaca and Laguna de Tambo, Arequipa) and Ecuador.² Its date of capture (January 20) would seem to indicate that the bird was breeding, and if the records of the nesting of the Ruddy-Ducks on the lakes of the central provinces belong here, it may turn out that the breeding range of *E. ferruginea* extends all over the Andes from Ecuador down to southern Chile.

Four birds in female and immature plumage, secured by Conover on the Río Ñirehuau in March and late February, are likewise referable to the large-billed form, as is also an apparently adult female from Penco, Concepción, taken by C. S. Reed in winter (June). I am informed by Dr. Stresemann that one of Plate's specimens from the same locality (June, 1894) is a female of *E. ferruginea*, while the September bird pertains to *E. vittata*. Both were erroneously identified by Schalow as *Nomonyx dominicus*, a species not known to occur in Chile.

In the plains around Concepción, this species doubtless is merely a winter visitor, its nesting grounds being in the Temperate and Puna Zones of the Andes.

¹ Cat. B. Brit. Mus., 27, p. 450, 1895.

² Three adult males and three females from Ecuador (Colta, Riobamba; Antisana; Sical; Lake Yaguarcocha, Imbabura) are inseparable from more southern specimens, thus showing *E. aquatorialis* to be invalid.

239. *Erismatura vittata* Philippi

Erismatura vittata Philippi, Arch. Naturg., 26, (1), p. 26, 1860—Chile (descr. of juv.); Philippi and Landbeck (1), p. 284 (crit.); Philippi (11), 1868, p. 531 (crit.); Bros., p. 380—Marga-Marga, Valparaíso (September).

Erismatura ferruginea (not of Eyton) Selater (2), 1867, pp. 335, 340—Chile (part); Philippi (12), p. 283—central provinces (part); E. Reed (4), p. 208—Chile (part); Lataste (4), p. LXIII—Junquillos (San Carlos), Ñuble (spec. in Paris Museum examined); Lane, p. 195—Rio Pilmaiquen, Valdivia (spec. examined); Lataste (9), p. 172—Aculeo and Junquillos; Bullock (4), p. 207—Angol, Malleco.

Nomonyx dominicus (errore) Schulow (2), p. 672—part, No. 247, Concepción (September).

Range in Chile. Central and southern provinces, from Valparaíso to Valdivia.

Material examined.—Santiago: Santiago, one ♂ ad., one ♀ juv. F. Leybold (British Museum). Ñuble: Junquillos (San Carlos), ♂ juv., Sept., 1895. F. Lataste (Paris Museum).—Concepción: Cabrero, two ♂♂ juv., one ♀, June 6, 1904. C. S. Reed (Tring Museum).—Valdivia: Rio Pilmaiquen, one ♂ (eclipse), four ♀♀ juv., Feb. 15–19, March 1, 1891. A. A. Lane (British Museum).—“Central Chile:” four ♂♂ ad., two (unsexed) juv. H. Berkeley James Collection. —“Tarapacá:” one ♂ (eclipse). H. Berkeley James Collection (all in the British Museum).

Information on the distribution of the Small-billed Ruddy Duck in Chile is even scantier than for the preceding species. Although a good many specimens have been taken at various times in the southern part of the country, not a single definite breeding record exists. It appears to be fairly common in winter around Santiago, and quite recently Father R. Bros records the taking of a specimen in September at Los Quillayes in the Marga-Marga Valley, Prov. Valparaíso. Lataste shot two birds at Junquillos, Ñuble, toward the end of September, while C. S. Reed secured some at Cabrero, Concepción, early in June. After inspecting the material in Field Museum, Mr. Bullock assures me that the lake-duck visiting Angol in winter is the present species and not *E. ferruginea*. Farther south, in Valdivia Province on the Rio Pilmaiquen, Lane collected a series in February and March. There being among them a male just molting from the extremely worn nuptial dress into the winter plumage, one is tempted to assume that the birds might have been breeding in the neighborhood, but, according to Lane, they did not appear there before the beginning of February. A male (in eclipse plumage) in the collection of the British Museum said to be from

"Tarapacá" is no doubt incorrectly labeled like many other skins in the H. Berkeley James Collection.

Although the characters separating *E. ferruginea* and *E. vittata* are not so striking as to suggest specific difference, yet it appears that these two ducks coexist in certain parts of their ranges. Peters¹ reports to have collected both late in December (supposed nesting season!) at Neluan, western Rio Negro, Argentina, and P. W. Reynolds sent to the British Museum specimens of both shot on March 4, 1928, at Cape Peñas, Tierra del Fuego. On the other hand, an example (in female plumage) from Los Yngleses, Ajó, Buenos Aires, Oct. 3, 1908, C. H. B. Grant coll., in the British Museum seems to be intermediate between the two species!

More exact information about their ranges during the breeding season is urgently required for the proper understanding of their relationship.

240. *Merganetta armata armata* Gould

Merganetta armata Gould, P. Z. S. Lond., 9, "1841," p. 95, March, 1842—"Andes of Chile, lat. 34°-35°" = Colchagua (types in British Museum examined); Fraser (1), p. 119—Chile; Gray and Mitchell, Gen. Birds, 3, pl. 170, 1844 (figure of male type); Des Murs, Icon. Orn., livr. 8, pl. 48 (=female), 1847—Chile; Bibra, p. 132—torrents of the high Cordillera [of Santiago]; Cassin, p. 204—rivers of the Andes; Pelzeln (2), p. 140—Chile; Sclater (2), 1867, p. 340—Chile; E. Reed (2), p. 564—Rio Cachapoal, Colchagua; idem (4), p. 208—Chile; Barros (4), p. 173—Cordillera of Aconcagua; C. Reed (4), p. 55—Rio Claro, Colchagua.

Rhaphipterus chilensis Gay, Hist. fis. pol. Chile, Atlas, Zool., pl. [12], 1844—Chile; Des Murs (2), p. 459—Maipo, Chile; Philippi (12), p. 283—high Cordilleras of central provinces.

Merganetta chilensis Des Murs, Icon. Orn., livr. 1, pl. 5 (—male), 1845—Chile.

Merganetta fraenata Salvadori, Cat. B. Brit. Mus., 27, p. 458, pl. 5, fig. 1, 1895 "Central Chili" (type in British Museum examined).

Merganetta andina Blaauw (1), p. 26—between Puerto Varas and Lake Todos Los Santos, Llanquihue.

Range in Chile.—Cordilleras from Coquimbo to Llanquihue.

Material collected.—Coquimbo: Balala, Rio Turbio (alt. 4,850 feet), ♂ ad., ♀ juv. (in down), Nov. 7; Guanta, Rio Turbio (alt. 4,250 feet), ♀ ad., Nov. 7.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♂ ad., ♀ ad., March 3 (Field Museum and Collection of H. B. Conover).

Additional specimens.—Colchagua: Colchagua, ♂ ad., June, 1864. Weisshaupt (British Museum); three young birds. E. Reed

¹Bull. Mus. Comp. Zool., 65, p. 303, 1923.

(Tring Museum).—"Central Chile:" four ♂♂ ad., including the type of *M. fraenata*. II. Berkeley James Collection.—"Andes" [of Chile]: two ♂♂ ad., including the type of *M. armata*. T. Bridges (all in the British Museum).

Although the available material of Chilean torrent-ducks leaves much to desire, I have little doubt that there is but one form in Chile, and that the characters used for the separation of *M. fraenata* are of individual rather than racial value. *M. fraenata* was based on a single male from "Central Chile" in the Berkeley James Collection (now in the British Museum), which differs from the ordinary type by having the lower parts (below the black foreneck) paler rufescent with broader, deeper black shaft-streaks, and by the black of the pileum being connected with the black around the eye by a vertical streak in front of the eye. However, this type of coloration does not seem to be restricted to any particular area, for an example obtained by Ferrua in February, 1897, at Valle Hermoso, Mendoza (British Museum), and a male shot by H. B. Conover at Casa de Richards, Rio Ñirehuau, far down in southern Llanquihue, are essentially similar. Both have the heavily marked belly, but vary somewhat in other details. While the Valle Hermoso bird has the black connecting streak in front of the eye just as well pronounced as the type, this feature is but slightly suggested by dusky edges to the supra-ocular feathers in Mr. Conover's specimen. The posterior under parts are strikingly pale, light pinkish cinnamon, in the birds from Valle Hermoso and Casa de Richards, while the type of *M. fraenata* is somewhat darker, between light vinaceous-cinnamon and pinkish cinnamon, thus forming the transition to *M. armata* (from Coquimbo and Colchagua), in which the color falls between sayal brown and tawny.

The male from the Rio Turbio, Coquimbo, agrees in the absence of the vertical black streak above the eye and in the pale rufescent, faintly striped under parts with two of Bridges' original examples (of *M. armata*)¹ and others from "Central Chile" in the British Museum. A male from Colchagua (Weisshaupt)—by paler, light vinaceous-cinnamon belly—closely approaches "*fraenata*." Another male, secured by G. H. Dawson at Trafal, Lake Nahuel Huapi, again is among the darkest, being even less streaked below than the majority of "*armata*."

¹The type is in full molt with many of the breast feathers just emerging from the sheaths and the whitish bases showing through in places.

Females from such widely separated localities as Rio Turbio (Coquimbo) and Casa de Richards (Llanquihue) are indistinguishable one from another.

This, together with the great amount of variation observable in other members of the genus,¹ clearly points to the conclusion that *M. armata* and *M. fraenata* are merely individual variants of a single taxonomic unit.

M. a. armata inhabits the rivers in the Cordilleras from Coquimbo south to western Patagonia (Chubut).²

According to Barros, it breeds at elevations of from 5,000 to 10,000 feet, but descends to lower regions in the severe season, being, however, rarely seen below 3,000 feet.

241. *Columba araucana* Lesson

Columba araucana Lesson, Voyage Coquille, Zool., 1, (2), livr. 4, pl. 40, July, 1827; livr. 6, p. 706, May, 1830—Talcaguano, Bay of Concepción; Des Murs (2), p. 376—Chile (monog.); Peale, p. 186—Chile; Hartlaub (3), p. 215—Valdivia; Bibra, p. 130—Valdivia; Boeck, p. 508—Valdivia (habits); Cassin, p. 190—Chile; Pelzeln (2), p. 108—Santiago; Sclater (2), 1867, pp. 330, 339—Chile; Philippi (12), p. 267—the whole of Chile, particularly in the south; E. Reed (2), p. 564—Cauquenes, Colchagua; Lataste (1), p. CXV—Cordillera of Aculeo, Santiago, and Ninhue (Itata), Maule; Waugh and Lataste (1), p. LXXXVII—Peñaflo, Santiago; idem (2), p. CLXXII—San Alfonso (Quillota), Valparaíso; E. Reed (4), p. 208—Chile; Lane, p. 297—near Hospital (Santiago), Arauco, Calle-Calle and Rio Bueno (Valdivia); Schalow (2), p. 671—Chile (egg descr.); Costes, p. 161—Valle de Marga-Marga, Valparaíso (habits); Barros (4), p. 16—Nihue, Curicó; idem (5), p. 170—Cordillera of Aconcagua; Housse (1), p. 51—Isla La Mocha, Arauco; idem (2), p. 148—San Bernardo, Santiago; Passler (3), p. 432—Coronel (habits, nest, and eggs); Jaffuel and Pirion, p. 111—Marga-Marga, Valparaíso (migratory visitor); Bullock (3), p. 126—Cerro de Nahuelbuta, Malleco; idem (4), p. 192—Angol, Malleco (common).

Columba denisea Temminck, Nouv. Rec. Pl. Col., livr. 86, pl. 502, Sept., 1830—Chile; Lesson, Rev. Zool., 5, p. 209, 1842—Valdivia; idem, Écho du Monde Sav., 9, 2nd sem., col. 253, 1842—Valdivia.

¹See Dabbene's paper (in El Hornero, 4, pp. 34-38, pls. 3, 4, 1927) on *M. berlepschi* [= *M. a. garleppi*], of northwestern Argentina.

²An adult male lately received by the British Museum extends the range of the Chilean Torrent-duck even to Tierra del Fuego. The bird was shot by P. W. Reynolds on Dec. 22, 1928, eight miles south of Lago Fagnano in the southern part of the island. It is the darkest specimen we have yet seen; below it is as heavily streaked with blackish as the type of *M. fraenata*, but the ground color is much deeper, about cinnamon-drab. The vertical connecting line above the eye is suggested by dusky edges.

Columba fitzroyii King, Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, "1830-31," p. 15, Jan., 1831—Chiloé Island; Darwin, p. 114—peninsula of Tres Montes and Valparaiso; Fraser (1), p. 115 southern provinces, in winter near Santiago.

(*Chloroenas araucana* Bullock, El Hornero, 3, p. 91 (nest).

Columba (Chloroenas) araucana Barros (10), p. 357—Aconcagua (breeding).

Range in Chile.—Central and southern provinces, from Coquimbo to peninsula of Tres Montes.

Material collected.—Aconcagua: Papudo, one (downy) young, Dec. 4, 1923.—Concepción: Cabrero, ♂ ad., Sept. 8, 1904. Carlos S. Reed.—Malleco: Curacautin, ♀ ad., July 19, 1923. C. S. Reed.—Valdivia: Máfil, ♂ ad., Feb. 20.—Chiloé Island: Quellon, two ♀ ad., Jan. 1, 1923.

The "Torcaza" is widely distributed throughout the lowlands of Chile. Mr. Sanborn writes: "Common from Chiloé to near Concepción, less common in central Chile, although many were seen at Papudo, coast of Aconcagua, in December, 1923, where a nest, made of sticks, was found in thick, brushy woods about twelve feet above the ground, containing one downy young. The species was observed as far north as Tambillos, Province of Coquimbo." H. B. Conover and Wilfred H. Osgood found it very common on Chiloé Island. Ambrose Lane states that he found this pigeon plentiful in the south, especially about Valdivia and Rio Bueno, less so in Arauco, but only once in a wooded and secluded glade on the hills near Hospital, where he was told a pair nested. Barros found it in the Aconcagua Valley only in winter time, though never in great abundance; small flocks were seen as high as 1,600 meters above sea level. In November, 1924, a pair nested, however, in the vicinity of the Estación de Piscicultura.

I cannot help thinking that the specimens said to be from "Tara-pacá" in the British Museum (H. Berkeley James Collection) have been incorrectly labeled, since the arid nature of that country hardly affords suitable haunts for this woodland species. The most southerly recorded locality on the Chilean side of the Andes is the peninsula of Tres Montes, where Darwin obtained specimens during the voyage of the "Beagle." It also occurs on the Argentine side from Neuquen to Lago General Paz, western Chubut. Specimens from San Martín de los Andes, Neuquen, in the collection of H. B. Conover, are in every respect similar to the Chilean ones.

This pigeon has never been taken in Patagonia proper, in the Straits of Magellan, or in Tierra del Fuego, although these districts are sometimes included in its range.

242. *Zenaida auriculata auriculata* (Des Murs)¹

Peristera auriculata Des Murs in Gay, Hist. fis. pol. Chile, Zool., 1, p. 381, pl. 6, 1847—central provinces of Chile; German, p. 312—Santiago (breeding habits).

Columba aurita (not of Temminck) Meyen, p. 99—Chile.

Zenaida aurita Darwin, p. 115—Valparaiso; Fraser (1), p. 115—Chile (very common); Yarrell, p. 53—Chile (egg); Des Murs (2), p. 378—Chile; Cassin, p. 191—Chile; Philippi (12), p. 268—the whole of Chile; idem, Ornith., 4, p. 159—Atacama; MacFarlane, Ibis, 1887, p. 202—near La Serena, Coquimbo; Lataste (1), p. CXV—Bureo (Chillan), Ñuble, and Ninhue (Itata), Maule; idem (4), p. XXXIV—Caillihue (Vichuquen), Curicó; idem (5), p. LXII—Maule; Waugh and Lataste (1), p. LXXXVII—Peñaflo, Santiago; idem (2), p. CLXXII—San Alfonso (Quillota), Valparaiso.

Zenaida auriculata Pelzeln (2), p. 109—Chile; Selater (2), 1867, pp. 330, 339—Chile; Schalow (2), p. 671—Santiago; Costes, p. 164—Marga-Marga, Valparaiso; Housse (1), p. 50—Isla La Mocha, Arauco; idem (2), p. 148—San Bernardo, Santiago; Gigoux, p. 85—Caldera, Atacama.

Columba meridionalis (not of Latham) Selater (2), 1867, pp. 330, 339—Chile.

Zenaida maculata E. Reed (2), p. 565—Cauquenes, Colchagua; Sharpe, p. 9—Coquimbo; E. Reed (4), p. 208—Chile; Lane, p. 298—Hacienda Mansel (near Hospital), Santiago, Rio Pilmaiquen and Rio Bueno, Valdivia (habits); Jaffuel and Pirion, p. 111—Marga-Marga, Valparaiso; Bullock (4), p. 192—Angol, Malleco (nesting).

Zenaida auriculata auriculata Passler (3), p. 432—Coronel (habits, eggs); Barros (4), p. 16—Ñilhue, Curicó; idem (5), p. 171—Los Leones and Rio Blanco, Aconcagua; Wetmore (3), p. 180—Concon, Valparaiso.

Range in Chile.—From Atacama (Caldera) to Llanquihue; accidental in the Straits of Magellan.

Material collected.—Coquimbo: Romero, ♂ ad., July 11.—Santiago: Cajon de Maipo, ♂ juv., May, 1923. C. S. Reed.—Colchagua: Baños de Cauquenes, ♂ ad., May 5; Hacienda de Cauquenes, two ♀♀ ad., ♂ imm., ♀ imm., May 3.—Concepción: Hacienda Gualpencillo, ♂ ad., April 8. Llanquihue: Rio Coihaique, Estancia Aisen, ♂ ad., Feb. 12; Casa de Richards, Rio Ñirehuau, two ♀♀ ad., ♂ imm., ♀ juv., Feb. 17 21.

The "Tortolita" is the commonest species of the family, being found in abundance throughout the whole of the republic from Coquimbo to Llanquihue. In Atacama, at Caldera, Gigoux records it as a rare winter visitant.

It is reported to be to some extent migratory, and to occur in certain parts only as a summer visitor. While chiefly found in the

¹A specimen of *Nesopelia galapagoensis* (Gould) in the British Museum said to have been obtained by Lord Byron in Chile is doubtless incorrectly labeled.

plains and lower hills, it ascends the mountains, according to Barros, to an elevation of more than 6,000 feet. In central Chile, Ambrose Lane tells us, it breeds from November to December, and around Valdivia from Christmas till March.

Its nest is described as resembling that of the European Turtle-Dove (*Streptopelia turtur*). It is usually placed in a thick bush or the fork of a tree, often overhanging the water.

Birds from Mendoza (Tunuyán) and Neuquen (Lake Nahuel Huapi) appear to be identical with the Chilean form, while a series from eastern Argentina, Uruguay, and Paraguay (*Z. virgata* Bertoni) average smaller and paler below.

243. *Metriopelia melanoptera melanoptera* (Molina)¹

Columba melanoptera Molina, Saggio Stor. Nat. Chile, pp. 236, 345, 1782—Chile (descr. mala).²

Columba boliviana (d'Orbigny and Lafresnaye MS.) Eyndoux and Gervais, Mag. Zool., 6, cl. 2, p. 33, pl. 75, 1836—"Boliviae montes"; idem, Voy. Favorite, 5, (2), p. 59, pl. 23, 1839—"Boliviae montes"; Bridges, p. 95—valleys of the Andes [of Colchagua]; Fraser (1), p. 115—Andes of Chile.

Zenaida boliviana Darwin, p. 116—Valparaíso; Des Murs (2), p. 379—Chile; Philippi, Reise Wüste Atacama, p. 163—Miguel Díaz, Antofagasta; MacFarlane, Ibis, 1887, p. 202—Coquimbo; Philippi (12), p. 268—central provinces; idem, Ornith., 4, p. 159—"Pacpote," Atacama.

Zenaida innotata Hartlaub, Rev. Mag. Zool., (2), 3, p. 74, 1851—Chile.

Chamaepelia melanura (Reichenbach MS.) Bibra, p. 130—Cordillera [of Santiago].

Metriopelia melanoptera Scater (2), 1867, pp. 330, 339—Chile; E. Reed (2), p. 565—Cordillera of Cauquenes, Colchagua; Scater (4), 1886, p. 402—"Lalcalhuay," Tarapacá; E. Reed (4), p. 208—Chile; Lane, p. 298—"Lalcalhuay," Huasco, and Sacaya, Tarapacá; Schalow (2), p. 670—Punta Teatinos, Coquimbo; Costes, p. 163—Valle de Marga-Marga, Valparaíso; Barros (4), p. 151—Nilahue, Curicó; idem (5), p. 171—Cordillera of Aconcagua; Housse (2), p. 149—San Bernardo, Santiago; Gigoux, p. 85—Caldera, Atacama; Jaffuel and Pirion, p. 111—Marga-Marga, Valparaíso.

Range in Chile.—From Tacna to Colchagua.

Material collected.—Santiago: Las Condes (18 km. northeast of Santiago), three ♂♂ ad., Nov. 6, 11, 1923. Carlos S. Reed.

Additional specimens.—Tarapacá: "Lalcalhuay," ♂ ad., Feb. 1, 1886. C. Rahmer (British Museum).—"Central Chile:" three (unsexed) adults and one young. Coll. Landbeck (British Museum).

¹About the generic affinities of the species, see Wetmore, Bull. U. S. Nat. Mus., 133, p. 173, 1926.

²Cf. Deautier and Steullet, Rev. Chil. Hist. Nat., 33, p. 474, 1929.

The "*Tortolita cordillerana*" ranges over the greater part of the northern and central provinces, and is reported to be locally common. During breeding time it keeps to the higher valleys and wooded slopes of the Cordilleras at elevations of from 6,000 to 12,000 feet; on the approach of winter—in Aconcagua early in April (fide R. Barros)—the birds repair to the foothills and plains, and descend even to the coast.

Specimens from central Chile agree with a single male from Tarapacá and a series from Bolivia (Parotani) and southern Peru (Tinta, Cuzco). This pigeon is widely diffused in the Puna Zone of these countries and western Argentina, while a nearly allied form, *M. m. saturator* Chubb, replaces it in the Andes of Ecuador.

244. *Leptophaps*¹ *aymara* (Knip and Prévost)

Columba aymara Knip and Prévost, Les Pigeons, 2, p. 62, pl. 32, circa 1840—"Tacora," Bolivia (type in Paris Museum examined).

Meliopelia aymara Sclater (4), 1886, p. 402 - Huasco and Sitani, Tarapacá; E. Reed (4), p. 208—Tarapacá; Salvadori, Cat. B. Brit. Mus., 21, p. 499, 1893—"Iquique" and Lake Huasco, Tarapacá.

Zenaida aurisquamata Philippi, Ornith., 4, p. 159 - Brea, Atacama.

Range in Chile.—Cordilleras of northern Chile, in provinces of Atacama, Antofagasta, and Tarapacá.

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), ♂ ad., ♀ ad., May 1, 1924, Oct. 4, 1923.

In Chile this dove appears to be restricted to the northern provinces. Rahmer obtained it at several localities in Tarapacá, while Philippi records specimens from Brea, Cordillera of Atacama. It is apparently absent from the central parts of the republic, although Maximilian Landbeck, according to Philippi (Anal. Univ. Chile, 31, p. 268, 1868, s. n. *Columbina aurisquamata*), met with it in January, 1866, just across the Chilean frontier in the vicinity of Uspallata Pass, Mendoza.

This dove inhabits the Puna Zone² of western Argentina (south to the Andes of Mendoza), northern Chile, Bolivia, and southern Peru. Birds from Argentina (*Columbina aurisquamata* Leybold)³ which Chubb (Ibis, 1919, p. 44) proposed to distinguish under

¹*Leptophaps* Reichenow, Journ. Orn., 61, p. 401, 1913—type *Columba aymara* Knip and Prévost.

²The specimen from "Iquique" (H. Rowland) in the British Museum is doubtless incorrectly labeled.

³Leopoldina, 8, No. 7, p. 53, March, 1873—Los Paramillos, near Uspallata, Prov. Mendoza.

Leybold's name, appear to me inseparable. They are by no means smaller, but perhaps on average slightly paler, especially below.

215. *Melopelia asiatica meloda* (Tschudi)

Columba meloda Tschudi, Arch. Naturg., 9, (1), p. 385, 1843—"frequenter in regionibus calidris praecipue declivitatibus Antium occidentalis," Peru; Philippi, Ornith., 4, p. 159—Suca [Rio Camarones, Tarapacá].

Zenaida souleyetiana Des Murs in Gay, Hist. fis. pol. Chile, Zool., 1, p. 380 pl. 6, 1846—Chile (type in Paris Museum examined).

Melopelia meloda Selater (2), pp. 330, 338—Chile; idem (4), 1886, p. 402—Pica, Tarapacá; E. Reed (4), p. 209—Tarapacá; Lane, p. 11—Pica.

Range in Chile.—Extreme northern section, in provinces of Tarapacá and Tacna.

Specimens examined.—Tarapacá: Pica, ♂ ad., Feb. 22, 1886. Carlos Rahmer. Wing 166; tail 128; bill 22 (British Museum).—"Chile:" adult. Type of *Z. souleyetiana*. M. Eydoux. Voyage of the "Bonite," 1838. Wing 162; tail 126; bill 21 (Paris Museum).

Except for slightly larger size, the Pica bird agrees with others from the Peruvian littoral (Chepen; Trujillo).

This dove is clearly but a race of *M. asiatica*, from which it merely differs by somewhat stronger bill and decidedly gray (instead of pure white) tips to the rectrices. Its range extends all along the Pacific littoral from extreme northern Chile to southwestern Ecuador (Santa Elena and Puna Island), while *M. asiatica* is found from western Panama northwards. No representative of the genus appears to exist in the intervening region.

M. a. meloda has been twice recorded from Chile. Philippi lists it from Suca, on the Rio Camarones, which forms the boundary line between the provinces of Tarapacá and Tacna, and Lane shot a single male at Pica, in the first-named province. The exact locality, where the type of *Z. souleyetiana* came from, is not known. It was obtained by Eydoux and Souleyet during the voyage of the "Bonite" in 1838, and may have originated either in northern Chile or in Peru.

246. *Columbina picui picui* (Temminck)

Columba picui Temminck, Hist. Nat. Pige. et Gall., 1, pp. 435, 498, 1813—based on Azara, No. 324, Paraguay; Jaffuel and Pirion, p. 111—Marga-Marga, Valparaiso.

Columbina strepitans (not of Spix) Fraser (1), p. 115—Valley of Aconcagua; Yarrell, p. 53—Chile (egg descr.); Cassin, p. 191—"in the mountains" [of Chile]; Pelzel (2), p. 109—Chile (egg descr.).

Columbina picui Des Murs (2), p. 377—"en las provincias centrales"; Germain, p. 312 Santiago (breeding habits); Philippi (12), p. 268—central provinces; Waugh and Latasche (1), p. LXXXVII Peñafior, Santiago; Housse (2), p. 149 San Bernardo, Santiago.

Chamaepelia cyanostigma Bibra, p. 130—near Casa Blanca, Valparaiso; Philippi (12), p. 325 (crit.).

Columbula strepitans Selater (2), 1867, pp. 330, 339—Chile (ex Pelzeln).

Columbula picui E. Reed (2), p. 565—Colchagua; idem (4), p. 209 valleys of the Cordilleras; Schalow (2), p. 669—Santiago; Costes, p. 166—Valle de Marga-Marga, Valparaiso; Bullock (4), p. 192—Angol, Malleco.

Columbula picui picui Barros (4), p. 16 Nilahue, Curicó (rare).

Columbina picui picui Barros (5), p. 171—Precordillera of Aconcagua.

Range in Chile. —Central provinces, from Aconcagua to Malleco.

Material collected. —Valparaiso: Olmué, two ♂♂ ad., May 24, June 2. C. C. Sanborn; Palmilla, La Cruz (alt. 500 feet), ♀ imm., Nov. 20, 1924. J. A. Wolffsohn.—Santiago: Lampa, ♀ ad., June 19, 1924. C. S. Reed.

The "Tortolita cuyana" has a very limited range in Chile, being restricted to some of the central provinces. It has been recorded by various observers from a number of localities in Valparaiso and Santiago, such as Olmué, Casa Blanca, Santiago, Peñafior, San Bernardo, and Marga-Marga. In the foothills and mountain valleys of Aconcagua it is reported by Bridges and Barros to be tolerably common. Farther south, it apparently decreases in numbers. R. Barros lists it as rare in the Valley of Nilahue, Curicó, and Bullock records a single occurrence, in July, 1928, for Angol, Malleco. It lives in the plains and hills, and is hardly ever found above an elevation of 1,100 meters.

Chilean birds are seemingly inseparable from typical *picui*, of which a large series has been examined including several topotypes from Paraguay. While *C. p. picui* thus occupies a wide area, comprising central Chile, the northern parts of Argentina, Bolivia, Paraguay, Uruguay, and southern Brazil, without undergoing any noticeable change, a smaller, decidedly paler race, *C. p. strepitans*, has developed in northeastern Brazil (Bahia to Ceará and Piahy).¹

247. *Chamaepelia talpacoti talpacoti* (Temminck)

Columba talpacoti Temminck (and Knip), Les Pigeons, 1, Colombigallines, p. 22, pl. 12, 1811—"l'Amérique méridionale" = Brazil.

Range in Chile.—Accidental in Malleco (one record from Angol).

¹ Cf. Hellmayr, Field Mus. Nat. Hist., Zool. Ser., 12, p. 466, 1929.

Material examined. Malleco: Angol, ♂ ad., Sept. 5, 1926. D. S. Bullock (Field Museum).

A flock of about fifty individuals of this dove appeared in the vicinity of Angol on September 5, 1926, and one specimen was shot by Mr. Bullock, who very kindly presented it to Field Museum of Natural History. The bird agrees with our large series from Brazil.

This is the unidentified species referred to by Mr. Bullock under No. 54 in his "Aves observadas en los alrededores de Angol" (Rev. Chil. Hist. Nat., 33, p. 192), where, by a pen-slip, the year of the occurrence is given as 1927.

This dove is certainly but an accidental visitor in Chile.

248. *Eupelia cruziana* (Knip and Prévost)

Columba cruziana Knip and Prévost, Les Pigeons, 2, p. 89, pl. 48, 1842 (?)¹—*"Bolivia, in the vicinity of Santa Cruz,"* errore; we suggest coast of Tacna (types in Paris Museum examined).

Chamaepelia cruziana Selater (4), 1886, p. 402—Pica, Tarapacá; idem (6), 1891, p. 136—Pica; E. Reed (4), p. 209—Tarapacá; Lane, p. 299—Pica (nesting habits).

Columba gracilis Philippi, Ornith., 4, p. 159—Canchones, Tarapacá.

Range in Chile. —Extreme northern section, in province of Tarapacá.

Material collected. —Tarapacá: Pica (alt. 4,000 feet), two ♀♀ imm., May 24, 1924.

Additional specimens. —"Peru" (locality not specified): ♂ ad., ♀ ad. D'Orbigny, 1831. Types of the species (Paris Museum).

These skins are similar to the types, but owing to their immaturity they are not so bright on the breast and have a number of brownish feathers in the gray crown. Although the describers indicate "Santa Cruz, Bolivia" as habitat, the two examples in the Paris Museum, according to both labels and registers, were obtained by d'Orbigny in 1831 in "Peru," viz. in the province of Tacna.

This handsome little dove is reported by Lane to be common at Pica in gardens, streets, and corrals. Philippi records it from Canchones, in the same district. Lane "found a nest on top of a post supporting the wall of a shed in a garden; as the whole structure was

¹*Eupelia* Todd, Ann. Carnegie Mus., 8, p. 512, 1913—type *Columba cruziana* Knip and Prévost.

²Although no definite information is available concerning the dates of publication and contents of the various livraisons of this work, it is generally conceded that *C. cruziana* has priority over *Columba gracilis* Tschudi (Arch. Naturg., 9, (1), p. 385, 1843—Peru).

a mere wicker-work arrangement, intended only as a shelter from the sun, the birds found no difficulty of passage through the interstices of the roof. The nest was a mere platform of stalks of grass, and contained two newly hatched young. I believe that this dove nests more commonly in the forks of trees or shrubs."

E. cruziana ranges from northern Chile to western Ecuador, its habitat being restricted to the arid and semi-arid Tropical Zone.

249. *Gymnopelia ceciliae gymnops* (Chubb)

Gymnopelia ceciliae gymnops (Gray MS.) Chubb, Bull. Brit. Orn. Cl., 38, p. 18, 1917 (Hallapata [Oruro], Bolivia).

Gymnopelia erythrothorax Selater (4), 1886, p. 402 Sibaya, Tarapacá; E. Reed (4), p. 209 Tarapacá.

Range in Chile. Extreme northern section, in provinces of Tarapacá and Tacna.

Material collected. Tacna: Putre (alt. 11,600 feet), ♂ ad., July 2, 1924.

The specimen is identical with others from the Bolivian province of Cochabamba (Tiraque, Vacas), which may be taken to represent *G. c. gymnops*.

This race differs from *G. c. ceciliae* (Lesson),¹ of western Peru (Santa Eulalia and Matucana, above Lima), by much paler² and more brownish upper parts with the tail coverts buffy brown or buckthorn brown; lighter brown central rectrices; much deeper vinous foreneck and chest; and deeper buff abdomen. It has long been known as *G. erythrothorax*, a name that cannot be retained, since *Columba erythrothorax* Meyen³ is antedated by *C. erythrothorax* Temminck.⁴

Its range comprises the extreme south of Peru (Arequipa, Puno), Bolivia, and the most northerly parts of Chile. In the latter country it was taken only once before, Carlos Rahner having shot a single young male at Sibaya, in the Cordillera of Tarapacá. Its habitat is restricted to the arid Temperate and Puna Zones.

¹*Columba* (*Chamopelia*) *ceciliae* Lesson, Écho du Monde Sav., 12, 1st sem., No. 1, col. 8, 1845--Peru. Syn. *Columba* (*Chamopelia*) *anaïs* Lesson, Oeuvr. Buffon (éd. Lévêque), 20, [= Descr. Mammif. et Ois.], p. 210, 1847--Peru.

²Not darker, as stated in the original description.

³Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 92, pl. 26, 1834--Pisacoma (alt. 14,000-15,000 feet), Arequipa, Peru.

⁴Temminck and Knip, Les Pigeons, Colombigallines, p. 15, pl. 7, 1811--"Surinam" (?).

250. *Rallus limicola antarcticus* King

Rallus antarcticus King, Zool. Journ., 4, p. 95, 1828 Straits of Magellan; Selater (2), 1867, pp. 333, 339 Chile (crit.); E. Reed (2), p. 565; idem (4), p. 209 Chile; Philippi (21), p. 70, pl. 28 Santiago.

Rallus uliginosus Philippi, Arch. Naturg., 14, (1), p. 83, 1858—plain of Santiago; idem (12), p. 278 Santiago.

Range in Chile. Only recorded from the province of Santiago, but also occurring in the Straits of Magellan and in Argentina.

Specimens examined. Santiago Province: adult, 1866. R. A. Philippi. — "Chile" (unspecified): five adults. Collected by T. Bridges, F. Leybold, and L. Landbeck (all in the British Museum).

Birds from central Chile (*R. uliginosus*) appear to be inseparable from others taken at Punta Arenas and Valle del Lago Blanco, western Chubut.

This little-known rail is nearly related to *R. limicola aequatorialis* Sharpe, but differs by generally smaller size;¹ paler, sandy (buffy) instead of brownish edges to the dorsal plumage; dark gray throat, breast, and upper abdomen (instead of isabelline passing into white along middle of throat, as in *aequatorialis*); and by having the flanks much more broadly and more regularly barred with black and white.

Nothing is known about its distribution in Chile beyond its having been obtained by several collectors in the central section, particularly in Santiago Province.

251. *Rallus sanguinolentus landbecki* n. subsp.

Adult. Nearest to *R. s. luridus* Peale, from the Straits of Magellan, but with slenderer, though not always shorter bill, and upper parts decidedly paler and more olivaceous, less rufous brown.

Type in Field Museum of Natural History, No. 66,400. ♀ ad., Concepción, Chile, June 20, 1903. Carlos S. Reed.

Range. The whole of Chile from Tarapacá south to Llanquihue (Rio Aisen).

Remarks.—The form here described is—properly speaking—not a new bird, but has been known for nearly a century under the name *Rallus* (or *Limnopardalus*) *sanguinolentus* as the Chilean race of *R. rhyrhynchus*. Recent investigation of the case, however, reveals

¹Eight specimens from Chile, Chubut, and Punta Arenas measure: wing 89–95; bill 29–32; seven from Ecuador and Lima: wing 100–107, once 95 mm. An adult female from Buenos Aires (Lomas de Zamora) with a wing of 99 mm. is, however, hardly smaller than *R. l. aequatorialis*.

the fact that no name is available for this rail, and that the nomenclature of the whole group needs readjustment.

The earliest name to be considered is *Rallus rytirhynchos* Vieillot,¹ exclusively based on the "Ypecaha pardo" of Azara (No. 372), who claims to have seen three specimens of it—presumably from Paraguay or the adjacent section of Argentina, although no definite locality is mentioned. The description, which appears to have been taken from immature individuals, indicates a bird with blackish brown top and sides of the head, pale brown occiput and nape; a whitish band along the middle of the under parts from the foreneck to the lower abdomen; and tarsi which are black anteriorly and coral-red laterally, while the bill is stated to be remarkably long, measuring $35\frac{1}{2}$ French lines (=80 mm.). These characters certainly do not agree with any plumage of the species designated by authors as *R. rytirhynchos*, and I am of the opinion that Vieillot's name should be dropped as unidentifiable.

Rallus setosus King² cannot at present be accepted either. The original account does not mention any specific locality, although from the title of the paper³ one is led to assume that the bird came from the Straits of Magellan. However, King expressly states that "the feathers of the lower part of the back" and "the secondary quill-feathers are marked with black in the centre," which is in utter disagreement with the plain-backed Magellanic race, whereas this feature is plainly shown in the Argentine and Brazilian forms. King's letter being dated "Adventure, Rio de Janeiro, July 8, 1827" (see Zool. Journ., 3, p. 422, 1827), I am wondering if *R. setosus* might not have been secured in the vicinity of the Brazilian capital, where a form with black-spotted back and secondaries, *R. s. zelebori*, is known to occur. Until the type, whose whereabouts are unknown, is found, it seems unadvisable to bring King's name into use.

Rallus sanguinolentus Swainson⁴ obviously is the first term of unquestionable applicability. The description, "Bill green, with a red spot at the base of the under mandible; plumage, above, olive brown; beneath, cinereous and unspotted; tail brown; the under coverts black. Inhabits Brazil and Chile," not containing any reference to the black spotting above, has been referred to the Chilean

¹Nouv. Dict. Hist. Nat., nouv. éd., 28, p. 549, 1819.

²Zool. Journ., 4, p. 94, 1828.

³"Extracts from a letter addressed by Capt. Philip Parker King to N. A. Vigers, on the Animals of the Straits of Magellan."

⁴Anim. Menag., p. 335, Dec. 31, 1837.

form. An inspection of the type courteously lent from the Cambridge (Eng.) Museum by the late Dr. Hans Gadow, however, shows this surmise to be fallacious. The type,¹ an adult bird in good condition, is a perfectly typical example of the eastern (Argentine-Paraguayan) race with heavily black-spotted middle and lower back and secondaries. The reddish color at the base of the mandible and on the lower half of the maxilla is still discernible. In the rather pale olivaceous tinge of the upper parts it agrees particularly well with certain specimens from Uruguay in the British Museum. Swainson's² name *R. sanguinolentus* must, therefore, replace *rythirhynchus* auct., and becomes the specific term of the whole group.

In 1847, Des Murs³ described the Chilean form as *Rallus bicolor*, but this name is preoccupied by *Rallus bicolor* Blackwall,⁴ a synonym of *R. nigricans* Vieillot.⁵

A year later, Peale⁶ named *Rallus luridus* from Tierra del Fuego, which is the same as the bird separated long afterwards by Sharpe⁷ as *Limnopardalus vigilantis*.

Thus, no valid name is available for the "Piden" of the Chileans, and we, accordingly, propose to call it *R. sanguinolentus landbecki* in commemoration of Ludwig Landbeck, who did more for the advancement of Chilean ornithology than anybody else.

After saying so much about their nomenclature, it seems appropriate to add a few lines on the characters of the various races and their distribution. At the outset, I want to state that I am quite unable to agree with Sharpe⁸ and Lowe⁹ in splitting the group into several specific entities. In the light of our present knowledge it is evident that nowhere do two of them occur side by side, and their distinguishing features, while fairly constant in series, are not of a nature to suggest specific difference. *Rallus nigricans*, on the other

¹It still bears Swainson's original label with the inscription: "*Rallus sanguinolentus* Sw. Cent. No. 161 and Mus. Brazil." Besides, there is a Museum label: "E Mus. Acad. Cantabrigiae. *Rallus rythirhynchus*. Type of *R. sanguinolentus*, Sw. Swainson Collection."

²Swainson may have seen Chilean birds in W. J. Hooker's collection or in the Zoological Society's Museum. In view of their general similarity it is not surprising that he should have regarded them as identical with his own specimen.

³In Gay, Hist. fis. pol. Chile, Zool., 1, p. 434, 1847—Chile.

⁴Edinb. Journ. Sci. (ed. Brewster), new ser., 6, No. 11, p. 78, Oct., 1832—Brazil.

⁵Nouv. Dict. Hist. Nat., nouv. éd., 28, p. 560, 1819—based on Azara, No. 371, Paraguay and La Plata River.

⁶U. S. Expl. Exp., 8, p. 223, 1848—Orange Harbour, Tierra del Fuego.

⁷Cat. B. Brit. Mus., 23, p. 31, pl. 4, 1894—Tom Bay, Straits of Magellan.

⁸Rep. Prince. Univ. Exp. Patagonia, 2, (1), p. 48, 1904.

⁹Bull. Brit. Orn. Cl., 46, p. 37, 1925.

hand, is obviously specifically distinct (its principal character being the nearly straight, greenish or yellowish bill) and is found, alongside with representatives of *R. sanguinolentus*, over a wide area of South America. I do not see any practical advantage in the recognition of such generic groups as *Pardallus* or *Otygonax* that have been advocated by certain authors, and prefer to include these neotropical rails in *Rallus*.

(a) *Rallus sanguinolentus sanguinolentus* Swainson.

Middle and lower back more or less distinctly spotted with blackish, inner secondaries extensively black in the center, margined with brown; bill with a conspicuous red basal spot, involving the whole depth of the mandible and the lower half of the maxilla.

Range. Northern Argentina, south to the Rio Negro; Paraguay; Uruguay; extreme southern Brazil (Rio Grande do Sul).

The blackish central spots to the dorsal feathers and secondaries, together with the prominent red mark at the base of the bill, render this form readily recognizable. The ground color of the upper parts is subject to certain individual variation, being sometimes more rufescent, sometimes duller and more olivaceous.

Among the many *adults* examined there was not one that lacked the red basal spot to the bill. The range appears to comprise the greater part of Argentina, from the Rio Negro northwards, as well as the adjoining republics of Paraguay and Uruguay, and stretches into the extreme south of Brazil. A specimen from Rio Grande, Rio Grande do Sul, agrees in color and size with the average from Argentina.

Specimens have been examined from the following localities.—Argentina, Prov. Buenos Aires: Isla Ella, Delta del Paraná, ♂ ad., Jan. 18, 1917. R. Kemp; Barracas al Sud, two ♂♂ ad., one ♀ ad., May, July, Sept. F. M. Rodriguez and S. Venturi; Avellaneda, ♀ ad., Sept. 22, 1904. F. M. Rodriguez; Belgrano, ♂ ad., Aug. 10, 1876. H. Durnford; Lomas de Zamora, ♂ ad., Nov. 8, 1886. W. W. Withington; Alvear, adult (unsexed), Aug. 13, 1876. H. Durnford; Conchitas, ♀ ad., Oct., 1869. W. H. Hudson; Ajó, one ♂ ad., three ♀♀ ad., March, June, Sept., Oct. E. Gibson; Los Yngleses, Ajó, ♀ ad., May 30, 1909. C. B. Grant; Del Carril, Dept. Saladillo, adult, Oct. 11, 1896.—Cordoba: Cosquin, ♂ ad., Aug. 2, 1882. E. W. White.—Entrerios: La Soledad, ♀ ad., Feb. 25, 1902. C. B. Britton.—Mendoza: Tunuyán, ♂ imm., ♀ ad., May 25–30, 1923. H. B. Conover.—Tucumán: San Felipe, ♂ imm., June 19, 1904.

L. Dinelli; Rio Colorado, ♂ ad., June 24, 1904. L. Dinelli; Burruyain, ♀ ad., Aug., 1926. E. Budin. Paraguay: Sapucay, ♂ ad., Nov. 18, 1902. W. Foster. Uruguay: Montevideo, adult, Burnett and Fitzroy; Santa Elena, Soriano, ♂ ad., Oct. 29, 1892. O. V. Aplin. — Brazil: Rio Grande, Rio Grande do Sul, ♂ ad., June. H. von Ihering; unspecified, adult (unsexed), type of *R. sanguinolentus* Sw.

(b) *Rallus sanguinolentus zelebori* (Pelzeln).

Aramides zelebori Pelzeln, Reise Novara, Zool., 1, Vogel, p. 133, 1865—Lake Paratininga (type) and Sapitiba, Rio de Janeiro.

Two adults from the vicinity of Rio de Janeiro, both in the Vienna Museum, are so much smaller and have so much slenderer, paler (yellowish green) bills that I cannot but maintain *A. zelebori* as subspecifically different. Both have the secondaries extensively black, the middle and lower back coarsely spotted with black,¹ and a very conspicuous bright red basal spot to the bill, thus agreeing in coloration with *R. s. sanguinolentus*. The dorsal surface is decidedly rufescent brown.

Wing 110, 114; tars. 55; bill 41, 45 mm.

Range. Southeastern Brazil, in State of Rio de Janeiro (Lake Paratininga and Sapitiba).²

Specimens examined. Lake Paratininga, adult, Aug., 1857. J. Zelebor ("Novara" Expedition), type; Sapitiba, ♀ ad., Feb. 11, 1818. J. Natterer.

(c) *Rallus sanguinolentus luridus* Peale.

Rallus luridus Peale, U. S. Expl. Exp., 8, p. 223, 1848—Orange Harbour, Tierra del Fuego.

Limnopardalus vigilantis Sharpe, Cat. B. Brit. Mus., 23, p. 31, pl. 4, 1894—Tom Bay, Straits of Magellan.

This form differs from the two preceding ones by its *unspotted* rufous brown upper parts, much larger feet and bill, and generally larger dimensions. The red basal spot to the bill is as a rule more or less obsolete or even absent, though sometimes hardly less conspicuous than in *sanguinolentus*, but apparently always lacking on the upper mandible.³

¹In the Sapitiba bird the lower back and rump are nearly uniform black, hence darker than in any of the numerous specimens of typical *sanguinolentus*.

²The bird from Ypiranga, São Paulo, recorded by Ihering (Cat. Faun. Braz., 1, p. 27, 1907) s. n. *Limnopardalus rufirhynchus*, probably belongs to *R. s. zelebori*.

³The coloration of the plate (2) in Oustalet's "Oiseaux de la Mission Scient. du Cap Horn" is obviously incorrect. In the text (p. 133), the bill in fresh specimens from the Cape Horn region is described as follows: "Les deux mandibules sont vertes sur la plus grande partie de leur longueur, mais la supérieure tourne au bleu violacé du côté du front, tandis que l'inférieure est marquée à la base d'une tache rouge très apparente."

Wing 150-163; bill 61 (once), 63 69 mm.

Range. Straits of Magellan, Tierra del Fuego, and Cape Horn region.

This rail is evidently restricted to the southern extremity of the South American continent and neighboring islands, where it appears to be resident, since birds have been taken in January, February, March, April, June, and December.

Specimens from the following localities.—Magallanes: Tom Bay, Madre de Dios Island, Trinidad Channel, ♀ ad., April 13, 1879. R. W. Coppinger (type of *L. nigilantis*); Mayne Harbor, ♂ ad., March, 1880. R. W. Coppinger; Puerto Bueno, West Smyth's Channel, ♂ ad., Feb. 6, 1903. M. J. Nicoll; Port Fleury, Straits of Magellan, ♂ ad., Jan. 29, 1879. R. W. Coppinger; Isla Año Nuevo, Tierra del Fuego, ♂ ad., Dec., 1918. E. Barceló; Hermit Island, adult. Antarctic Expedition; Bay Gretton, Wollaston Island, ♂ ad., two ♀ ♀ ad., Dec. 25, June 21-22; Maxwell Island, ♀ ad., June 26, 1883; M. Hahn (French Cape Horn Expedition).

(d) *Rallus sanguinolentus landbecki* Hellmayr.

Rallus sanguinolentus (not of Swainson) Darwin, p. 133—Valparaiso; Fraser (1), p. 108—Chile; Yarrell, p. 54—Chile (egg descr.); Selater (2), 1867, pp. 333, 339—Chile; Lane, p. 299—Pica, central and southern Chile, Chiloé.

Rallus bicolor (not of Blackwall) Des Murs (2), p. 434—Chile; Boeck, p. 510—Valdivia; Germain, p. 314—Santiago (breeding habits); Frauenfeld, p. 639—Lake Aculeo, Santiago; Philippi (12), p. 278—the whole of Chile; Lataste (1), p. CXV—Bureo (Chillan), Ñuble; idem (4), p. XXXIV—Caillihue (Vichuquen), Curicó; idem (5), p. LXIII—Junquillos, Ñuble; Waugh and Lataste (1), p. LXXXIX—Peñaflo, Santiago; idem (2), p. CLXXIII—San Alfonso, Valparaiso.

Rallus caesi (not of Spix) Cassin, p. 195—interior of Chile; Schlegel, Mus. Pays-Bas, Ralli, p. 8, 1865—Santiago.

Ayamides bicolor and *Ayamides sanguinolentus* Pelzeln (2), pp. 133, 134—Chile.

Rallus rhythrhyinchus (sic) E. Reed (2), p. 565—Cauquenes, Colchagua; Gigoux, p. 83—Caldera, Atacama.

Rallus rhytorhyinchus Selater (6), 1891, p. 136—Pica, Tarapacá.

Rallus erythrhyinchus (sic) E. Reed (4), p. 209—Chile.

Limnopardalus rityrhynchus sanguinolentus Schalow (2), p. 669—Punta Teatinos, Coquimbo; Passler (3), p. 438—Coronel (breeding habits).

Pardirallus rityrhynchus sanguinolentus Chubb, Ibis, 1919, p. 51—Maquehue and Pelal, Temuco; Bullock, El Hornero, 3, p. 91 (nest).

Pardirallus rityrhynchus subsp. *sanguinolentus* Barros (4), p. 16—Ñilahué, Curicó.

Pardirallus rylirhynchus sanguinolentus Barros (5), p. 171—Cordillera of Aconcagua.

Rallus rylirhynchus Housse (1), p. 52—Isla La Mocha, Arauco; idem (2), p. 150—San Bernardo, Santiago; Jaffuel and Pirion, p. 113—Marga-Marga, Valparaíso; Bullock (4), p. 203—Angol, Malleco (breeding).

Range.—Chile, from Tarapacá to Llanquihue (Rio Aisen), and the adjacent section of southwestern Argentina (western Chubut and western Santa Cruz).

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♀ ad., Aug. 24.—Cautín: Rio Lolen (alt. 3,600 feet), Lonquimai Valley, ♀ imm., ♂ juv., Feb. 11.—Valdivia: Máfil, ♂ vix ad., ♂ imm., ♀ juv., Feb. 21.—Chiloé Island: Quellon, two ♂♂ ad., one ♀ ad., Jan. 17-19; Rio Inio, ♂ ad., ♀ ad., Dec. 22, Jan. 5.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♂ ad., ♂ vix ad., Feb. 21-27; Balseo, junction of Rios Simpson and Mañuales, near Puerto Aisen, ♂ imm., April 12.

Additional specimens.—Tarapacá: Pica, ♀ ad., May 24, 1890. A. Lane.¹—Coquimbo: Vicuña, adult, July 1, 1886. R. H. Powell.²—Santiago (not specified): ♂ ad., 1871. F. Leybold;¹ ♂ ad., June 14, 1924. C. S. Reed;² two ♂♂ ad., Sept., 1872. E. C. Reed.³—O'Higgins: Rancagua, ♂ ad., June 22, 1924. C. S. Reed.²—Curicó: Teno, ♂ ad., May 23, 1923. C. S. Reed.²—Concepción: Vegas de Talcaguano, ♂ ad., June 12, 1924. C. S. Reed;² Concepción, ♀ ad., June 20, 1903. C. S. Reed (Field Museum); Penco, ♂ ad., June 20, 1904. C. S. Reed;¹ Cabrero, ♀ ad., June 8, 1903. C. S. Reed.³—Ñuble: Junquillos (San Carlos de Chillan), ♀ ad., May 23, 1895. F. Lataste (Paris Museum).—Arauco: Maquegua, two ♂♂ ad., July 19, Aug. 10, 1890. A. A. Lane.¹—Malleco: ♂ ad., June 8, 1924. C. S. Reed.²—Cautín: Maquehue, one ♂ ad., two ♀♀ ad., one ♀ imm., March 5, 28, Jan. 19, Sept. 9. D. S. Bullock;¹ Pelal, Temuco, two ♀♀ ad., Nov. 20, 1909. A. C. Saldaña;¹ Chapod, Temuco, ♀ ad., April 19, 1910. A. C. Saldaña.¹—Valdivia: Rio Bueno, ♂ ad., Jan. 9, 1890. A. A. Lane.¹

The Chilean race is closely allied to *R. s. luridus* and resembles it in the uniform (unspotted) upper parts, but feet and bill are decidedly weaker, while the coloration above is lighter, more olivaceous (less rufous) brown. Some of the Chilean birds have the bills quite as long as *luridus*, and a few approach it also in the saturated

¹British Museum (Natural History), London.

²Museum of Comparative Zoology, Cambridge, Mass.

³Tring Museum, Herts., England.

tone of the dorsal plumage; but in series the two forms are clearly separable.

There does not seem to be any local variation, birds from Copiapó and Santiago being identical with others from southern Chile. A single female from Pica, Tarapacá, however, is smaller and has a remarkably short bill.

The red spot at the base of the bill is very rarely so well-marked as in *R. s. sanguinolentus*. In most cases it is rather obsolete or even absent as in *R. s. lunidus*, although the red color sometimes encroaches on the extreme lower portion of the upper mandible.

The "Piden" is reported to be common in suitable places throughout the republic. According to Barros, it is found in the Cordilleras up to about 6,000 feet elevation. It appears to be also this form that occurs on the eastern side of the Andes in the western districts of Chubut and Santa Cruz. An immature female from Puesto Burro, Chubut (Mus. Nac. Hist. Nat. Buenos Aires, No. 9395. April 22, 1918. E. Budin) I am unable to distinguish from Chilean specimens in corresponding plumage, and Wetmore¹ likewise refers an adult bird from Caracoles, Santa Cruz, to the present race.

MEASUREMENTS

| Adult males | Wing | Bill |
|---------------------------|---------------------|----------------|
| Three from Santiago | 138,140,150 | 59,63,— |
| One from Rancagua | 150 | 68 |
| One from Curicó | 147 | 67 |
| Two from Concepción | 150,150 | 65,69 |
| Two from Arauco | 144,146 | 67,68 |
| One from Malleco | 148 | 64 |
| One from Cautín | 150 | 67 |
| Two from Valdivia | 145,150 | 67,68 |
| Three from Chiloé Island | 140,150,152 | 62,66,68 |
| One from Río Nirehuau | 150 | 60 |
| Adult females | | |
| One from Pica, Tarapacá | 130 | 43 |
| One from Copiapó, Atacama | 135 | |
| Two from Concepción | 140,140 | 59,59 |
| One from Nuble | 142 | 56 |
| Five from Cautín | 137,137,138,141,149 | 54,56,57,57,65 |
| Two from Chiloé Island | 141,144 | 55,57 |

Two additional races, *R. s. tschudii* (Chubb) and *R. s. simonsi* (Chubb), inhabit Peru. They are closely related to *R. s. sanguinolentus*, and need not be discussed any farther in the present connection.

252. *Creciscus jamaicensis salinasi* (Philippi)

Rallus salinasi Philippi, Anal. Univ. Chile, 14, p. 180, 1857—Chile; idem, Arch. Naturg., 23, (1), p. 262, 1857—Chile.

¹Univ. Calif. Pub. Zool., 24, p. 424, 1926.

Gallinula salinasi Philippi (12), p. 278 only in the province of Santiago.

Porzana jamaicensis (not of Gmelin) Sclater (2), 1867, pp. 333, 339—Chile;

E. Reed (2), p. 565 (Colchagua (?); idem (4), p. 209—Chile.

Rallus (Porzana) salinasi Philippi (24), p. 69, pl. 23, fig. 2—Chile.

Range in Chile. Definitely recorded only from the province of Santiago, but doubtless more widely distributed.

Specimens examined. —Santiago: Vicinity of Santiago, ♀ ad., ♀ imm., Sept., 1865. R. A. Philippi (U. S. National Museum); ♂ imm., ♀ juv., 1866. F. Leybold (Munich Museum).

This little rail, originally discovered by Eulogio Salinas near Santiago, was afterwards obtained in the same district by R. A. Philippi and F. Leybold. Nothing is known about its habits, though it is not likely to differ from its congeners. Mr. Sanborn believes that he saw it in the Copiapó Valley, near Ramadilla, Atacama. All the specimens preserved in collections are from Santiago.

C. j. salinasi is closely related to the Black Rail of North America, but may be distinguished by the much more extensive as well as brighter (russet instead of carob or chestnut brown) nuchal area and slightly longer toes. As far as the blackish ground color and the restricted white marginal spots of the dorsal plumage are concerned, the two birds are very much alike. Another close ally, *C. j. murivagans* Riley,¹ inhabits the littoral of Peru. It is very similar to *C. j. salinasi*, but has the back more of a brownish hue with the white markings forming regular bars across the whole width of the feathers instead of being broken into isolated spots. There can be no question in my mind that these South American "species" are merely slightly differentiated races of the northern Black Rail.

253. *Porphyriops melanops crassirostris* (J. E. Gray)

Fulica crassirostris J. E. Gray in Griffith's Anim. Kingd., Birds, 3, p. 542 and plate, 1829—"South America" (type in British Museum examined).

Gallinula crassirostris Darwin, p. 133—Valparaíso; Fraser (1), p. 118—[Colchagua] Chile (egg descr.); Yarrell, p. 54—Chile (egg descr.); Des Murs (2), p. 436, pl. 9—Chile (monog.); Boeck, p. 510—Valdivia; Cassin, p. 196—Chile; Germain, p. 314—Santiago; Frauenfeld, p. 689—Lake Aculeo, Santiago; Pelzeln (2), p. 135—Chile (egg descr.); Schlegel, Mus. Pays-Bas, Ralli, p. 49, 1865—Santiago and Valdivia; Philippi (12), p. 278—the whole of Chile; Lataste (5), p. LXII—San Carlos (Junquillos), Ñuble (spec. examined); Waugh and Lataste (1), p. LXXXVIII—Peñaflor, Santiago; Housse (2), p. 150—San Bernardo, Santiago.

Ortygometra femoralis Hartlaub (3), p. 216—Valdivia.

Hydroicca melanops Sclater (2), 1867, pp. 333, 339—Santiago.

¹Proc. Biol. Soc. Wash., 29, p. 104, 1916—Lima, Peru.

Porphyriops crassirostris Sclater and Salvin, P. Z. S. Lond., 1868, p. 461--Chile (crit.).

Porphyriops melanops E. Reed (2), p. 565 Cauquenes, Colchagua; Salvin (2), p. 428 Coquimbo Lagoon; E. Reed (4), p. 209 Chile; Lane, p. 300--Valdivia; Schalow (2), p. 668 - Villarrica; Barros (4), p. 17--Nihue, Curicó; Housse (1), p. 52--Isla La Mocha, Arauco; Jaffuel and Pirion, p. 113--Marga-Marga, Valparaíso (breeding); Bullock (4), p. 203--Angol, Malleco.

Porphyriops melanops melanops Chapman, Bull. Amer. Mus. N. H., 33, p. 159, 1914--Temuco, Cautín; Passler (3), p. 434 Coronel (breeding habits).

Range in Chile. - From Coquimbo to Llanquihue.

Specimens examined. - Coquimbo: Coquimbo, ♀ ad., Nov., 1881. A. H. Markham. - Santiago: Peñaflor, ♂ ad., Feb. 26, 1895. F. Lataste; Santiago, ♂ ad., 1872. F. Leybold (British Museum). - Ñuble: Junquillos (San Carlos de Chillán), ♂ ad., May 23, 1895. F. Lataste (Berlepsch Collection, Frankfort Museum). - Cautín: Finfiñ, Temuco, three ♂♂ ad., April 30, 1910. A. C. Saldaña; Maquehue, Temuco, ♂ ad., Sept. 23, 1904. D. S. Bullock. - Valdivia: Rio Contra, ♂ juv., Feb. 19, 1891. A. A. Lane (all in the British Museum). - Llanquihue: Desagüe, ♀ ad., April 12, 1895. G. Hopke (Frankfort Museum). - Chile (unspecified): five adults. H. Berkeley James Collection (British Museum).

Comparison with a fair series from eastern Argentina (Buenos Aires region) and Brazil (Rio Grande do Sul and Bahia) tends to show that Chilean birds may be separated on account of their generally longer wings and stouter, more elevated bills. While it must be admitted that measurements slightly overlap and that the bill in some Chilean examples is by no means larger than in the general run from Argentina, certain birds from the east are remarkably small-billed, and their wings never attain the high figures frequently reached by specimens from the Pacific side. The type of *Fulca crassirostris*, from an unknown locality, presented by W. Henshaw to the British Museum, according to dimensions of wing and bill, is a typical example of the Chilean form.

MEASUREMENTS

| <i>P. m. melanops</i> | Wing | Tail | Bill |
|--|---------------------|-----------------|-----------------|
| Four adult males from Ajó, Buenos Aires | 123,125, 128,128 | 54,55, 56,59 | 29,31, 32,32 |
| One adult male from Dept. Saladillo, Prov. Buenos Aires | 117 | 52 | 24 |
| One adult from Espartillar, Buenos Aires | 119 | 52 | 25 |
| One adult male from Buenos Aires | 125½ | 54 | 29½ |
| Two adults from near Colonia, Rio de la Plata | 116,125 | 56,58 | 27,28 |
| One adult from São Lourenço, Rio Grande do Sul, Brazil | 128 | 52 | 27½ |
| One adult female from Joazeiro, Bahia | 120 | 49 | 30 |

| <i>P. m. crassirostris</i> | Wing | Tail | Bill |
|--|---------------------|-----------------|--------------------------------|
| Two adult males from Santiago Province | 130,134 | 57,59 | 28,30 |
| One adult male from Junquillos, Nuble | 135 | 64 | 30 ¹ / ₂ |
| Four adult males from Temuco, Cautin | 126,134, 134,141 | 57,60, 60,62 | 28,29, 29,30 |
| One adult female from Coquimbo | 126 | 55 | 27 |
| One adult female from Llanquihue | 127 | 62 | 29 |
| Type of <i>Fulica crassirostris</i> Gray | 135 | 58 | 32 |

So far as coloration is concerned, I am unable to discover any constant difference between the two races. The presence of white at the tips of the shorter secondaries is evidently a purely individual character, and has no geographic significance.

The "Taguila" is reported as common around lakes and marshes in the southern and central provinces. In the north it ranges as far as Coquimbo, where specimens have been taken by Markham and Plate.

254. *Gallinula chloropus garmani* Allen

Gallinula garmani Allen, Bull. Mus. Comp. Zool., 3, p. 357, 1876—Lake Titicaca, Peru.

Gallinula galeata (not of Lichtenstein) Sclater (4), 1886, p. 402—Sitani, Tarapacá; idem (6), 1891, p. 136—Sacaya, Tarapacá; E. Reed (4), p. 209 Chile; Lane, p. 300—Sacaya, Tarapacá (habits).

Range in Chile.—Cordilleras of Tarapacá.

Specimens examined.—Tarapacá: Sacaya, three ♂♂ ad., one ♂ imm., one ♀ ad., Jan. 25, March 13, 16, 29, April 30, 1890. A. A. Lane; Sitani, ♀ ad., Jan. 20, 1886. C. Rahmer (British Museum).

The series agrees with another from Peru and Bolivia, including a number of topotypes. The large size, the nearly uniform dark slaty coloration (at best with a slight dull brownish olive tinge on lower back and rump), and the slaty blackish head and neck readily distinguish *G. c. garmani* from the other South American races of the moorhen.

It is apparently a high Andean representative of the group, which lives in the Temperate and Puna Zones (from 10,000 feet upwards) of Peru, Bolivia, northern Chile, and northwestern Argentina. In addition to the Tarapacá series, we have examined specimens from the following localities: Lake Junín (three); Puno, west shore of Lake Titicaca (three); Chililaya, Lake Titicaca, Bolivia (three); Laguna de Tambo, Arequipa, Peru (one); Vacas, Cochabamba, Bolivia (one); Puna de Jujuy, Argentina (one).

The wing ranges in males from 212 to 228, in females from 190 to 210 mm.; the specimens from Junín being on average slightly larger (220 and more) than the others.

Birds from the littoral of northwestern Peru (Reque and Eten, Lambayeque; Trujillo, Libertad)¹ are much smaller (wing 157-165 mm.), paler, and extensively olive brown on the dorsal surface. They appear to be very near to *G. g. paucilla* Bangs, but differ by much shorter bill with much less expanded frontal plate.

According to Lane, Garman's Moorhen is by no means uncommon in the marshes of Sacaya, Tarapacá. It is locally known as "Llagareto," nests in rushes, sedges, etc., laying about five eggs in January or February, and occurs up to 11,000 feet.

[*Gallinula chloropus galeata* (Lichtenstein) does not occur in Chile, as has been pointed out long ago by Philippi (P. Z. S. Lond., 1868, p. 532). Des Murs's statement (in Gay, p. 437) that *G. galeata* is "común en los lagos de la República" refers without doubt to some species of *Fulica*, and so does Frauenfeld's sight-record (p. 639) from Lake Aculeo, Santiago.]

255. *Fulica cornuta* Bonaparte

Fulica cornuta Bonaparte, Compt. Rend. Ac. Sci. Paris, 37, p. 925, Dec., 1853
Bolivia (type from Potosi, coll. Castelnau, in Paris Museum examined);
Philippi, Ornith., 4, p. 160 - Lake Ascotan, Antofagasta.

Range in Chile. - Puna of Antofagasta (one record from Lake Ascotan).

Philippi records this species from Lake Ascotan, at an altitude of about 15,000 feet, in the Cordillera of northeastern Antofagasta.

This coot, immediately recognizable by the caruncles on the frontal shield, is only known from a few localities, all above 13,000 feet, in northwestern Argentina, Bolivia, and northern Chile. Discovered by Castelnau and Deville near Potosi, Bolivia, in 1845, the type remained unique in the French National collection until the late G. Baer² secured specimens at the Laguna de Cerro Pelado (alt. 16,000-17,000 feet), in the Aconquija Range, Tucumán. Additional specimens have since been obtained on the Laguna de las Cumbres Calchaquies (alt. 15,000 feet), Tucumán,³ and on Lake Poopo, Oruro, Bolivia.⁴

¹ We have not seen birds from Lima.

² Cf. Rothschild, Bull. Brit. Orn. Cl., 14, p. 38, 1904; Baer, Ornith., 12, p. 232, 1904.

³ Lillo, Rev. Letr. Cienc. Soc., 3, p. 70, 1905; Hartert and Venturi, Nov. Zool., 16, p. 260, 1909.

⁴ Ménégaux, Bull. Soc. Philom. Paris, (10), 1, p. 220, 1909.

256. *Fulica gigantea* Eydoux and Souleyet

Fulica (sw) *gigantea* Eydoux and Souleyet, Voy. Bonite, Zool., 1, p. 102, pl. 8, 1841 Peru.

Fulica gigantea Sclater (4), 1886, p. 402 Cueva Negra, near Sacaya, Tarapacá (eggs descr.); idem (6), 1891, p. 136—Sacaya, Tarapacá; Lane, p. 301—Sacaya, Tarapacá; Blaauw (1), p. 14—“Laguna Huachiri,” Chile.

Range in Chile. Cordilleras of Tarapacá and Tacna.

Specimens examined.—Tarapacá: Cueva Negra, two ♀♀ ad., Feb. 10, 1886. C. Rahmer; Sacaya, ♂ ad., March 18, 1890. A. Lane (British Museum).

These birds are identical with others from Peru (Junín).

Within Chilean limits the Gigantic Coot has only been found in Tarapacá, where it is said to be far from common. In fact, Lane writes that in the district visited by him it was very local, being confined to certain pools. There was a small piece of marsh at Sacaya in the upper part of the valley with a few acres of water and a fair amount of sedgy grass about it. On this Lane found a colony of *F. gigantea* and *F. ardesiaca*, but never saw them anywhere else but in this one spot, from which they appeared never to stray. The altitude of this marsh was nearly 11,000 feet.

Blaauw states that the Museo Nacional at Santiago has two specimens of this coot taken in 1870 on the Laguna Huachiri, a place that I have not been able to locate on any map.

F. gigantea inhabits the Puna Zone of Peru, Bolivia, and northern Chile.

257. *Fulica ardesiaca* Tschudi

Fulica ardesiaca Tschudi, Arch. Naturg., 9, (1), p. 389, 1843—Peru, sc. Lake Junín (see Faun. Peru., Aves, p. 303); Sclater (4), 1886, p. 402—Huasco, Tarapacá; idem (6), 1891, p. 136—Sacaya, Tarapacá; Philippi, Ornith., 4, p. 160—Antofagasta; Lane, p. 203—Sacaya, Tarapacá.

Range in Chile. —Cordilleras of Tarapacá and Antofagasta.

Specimens examined.—Tarapacá: Sitani, ♂ ad., ♀ ad., Jan. 20, 1886. C. Rahmer (British Museum).

These examples agree with others from Peru (Lake Junín; Laguna de Tungasuca).

Lane found this coot in company with *F. gigantea* on a marsh in the upper part of the Sacaya Valley. Carlos Rahmer obtained it at Sitani, Tarapacá, and Philippi lists it from Antofagasta.

F. ardesiaca is widely distributed in the Puna and Temperate Zones of the Andes from Ecuador south to Bolivia and northern Chile.

258. *Fulica rufifrons* Philippi and Landbeck

Fulica (misprinted *Tulica*) *rufifrons* Philippi and Landbeck, Anal. Univ. Chile, 19, No. 4, p. 507, Oct., 1861 Chile; Landbeck, Arch. Naturg., 28, (1), pp. 223, 225, 226, 1862 Chile, sc. Santiago; Philippi (24), p. 71—Chile; Housse (2), p. 150 San Bernardo, Santiago; idem (3), p. 227—Isla La Mocha, Arauco; Passler (3), p. 436 Coronel (breeding habits); Jaffuel and Pirion, p. 113 Marga-Marga, Valparaiso.

Fulica leucopygia (not of Wagler, 1831) Hartlaub, Journ. Orn., 1, "1853," Extraheft, p. 84, 1854—Talcahuano; Schlegel, Mus. Pays-Bas, Ralli, p. 64, 1865—Santiago (crit.); Pelzeln (2), p. 135—Chile; Sclater (2), 1867, pp. 333, 339—Chile; Schalow (2), p. 667—Villarrica and La Serena, Coquimbo.

Fulica rufifrons (sic) Philippi (12), p. 279 central provinces.

Fulica leucopygia (sic) E. Reed (2), p. 566 Cauquenes, Colchagua.

Fulica leucopygia (sic) E. Reed (4), p. 209—Chile.

Range in Chile. —Central provinces, from Coquimbo to Arauco.

Material collected. —Talca: Camarico, ♀ ad., Aug. 14, 1924. C. S. Reed.—Concepción: Penco, ♂ ad., Sept. 10, 1904. C. S. Reed.—Malleco: ♀ ad., June 8, 1924. C. S. Reed.

In addition, I have examined a number of Chilean specimens from unspecified localities in European collections.

This coot is easily distinguishable from the two other species found in the central provinces by the dark red frontal shield ending posteriorly in a narrow acute point and the proportionately longer tail; the first (outermost) primary lacks every trace of a white margin. Landbeck and Wetmore¹ have accurately described the characters of this bird.

Very little definite information is available about the exact limits of its breeding range in Chile. From the data at hand it seems to extend from Coquimbo (where L. Plate secured eggs) at least to Coronel, where Pässler found it nesting in October. According to Landbeck (l. c., p. 226) and Pässler, the eggs are readily distinguished from those of *F. armillata* by more elongated shape, smoother surface, and greenish color with dusky markings which are more evenly distributed.

F. rufifrons occurs also in Argentina, Uruguay, and São Paulo (Iguapé).

Specimens from the Falkland Islands, which we have not seen, are said to be somewhat smaller.

¹Bull. U. S. Nat. Mus., 133, p. 119, 1926.

259. *Fulica armillata* Vieillot

Fulica armillata Vieillot, Nouv. Diet. Hist. Nat., nouv. éd., 12, p. 47, 1817—based on Azara, No. 448, Paraguay; Lesson (11), p. 209—Valparaíso; idem (12), p. 253—Valparaíso; Hartlaub (3), p. 217—Rio de Valdivia; idem, Journ. Orn., 1, "1853," Extraheft, p. 83, 1854—Valdivia and Valparaíso (monog.); Pelzeln (2), p. 136—Chile; Selater (2), 1867, pp. 334, 339—Chile; E. Reed (2), p. 566—Cauquenes, Colchagua; idem (4), p. 209—Chile; Schalow (2), p. 663—La Serena, Coquimbo, and El Pozo, Lago Llanquihue; Barros (4), p. 17—Ñilhue, Curicó; Passler (3), p. 435—Coronel (breeding habits); Wetmore (3), p. 118—Concon, Valparaíso; Bullock (4), p. 204—Angol, Malleco (breeding); Barros (10), p. 355—Cordillera of Aconcagua.

Fulica galeata (lapsu) Darwin, p. 133—Concepción; Fraser (1), p. 118—lakes of Quintero and Santo Domingo (spec. examined in British Museum); Yarrell, p. 54—Chile (eggs descr.).

Fulica frontata Gray, List Spec. Birds Brit. Mus., 3, p. 124, 1844—Valparaíso (nom. nud.; spec. examined in British Museum).

Fulica chilensis Gay, Hist. fis. pol. Chile, Atlas, pl. 10, 1848; Des Murs, l. c., 8, p. 474, 1854—Chile; Cassin, p. 196—vicinity of Santiago; Germain, p. 314—Santiago (breeding habits); Frauenfeld, p. 638—Lake Aculeo, Santiago; Philippi and Landbeck (6), p. 506—Chile; Landbeck (3), pp. 221, 224, 226—Chile (monog.); Philippi (12), p. 279—Valdivia to central provinces.

Fulica chloropoides Boeck, p. 510—Calle-Calle River, Valdivia; Lataste (5), pp. LXII, LXIII—Junquillos (San Carlos), Ñuble; Waugh and Lataste (1), p. LXXXIX—Peñaflor, Santiago; idem (2), p. CLXXXIII—San Alfonso (Quillota), Valparaíso (spec. in British Museum examined).

(?) *Fulica americana* (errore) Bibra, p. 131—lakes near Santiago.

Fulica leucopygia (errore) Sharpe, p. 14—Talcaguano (spec. in British Museum examined).

Range in Chile.—From Coquimbo to the Straits of Magellan.

Material collected. Temuco: Puyehue, ♂ ad., Jan. 27, 1912. A. C. Saldaña. Valdivia: Ríñihue, ♀ ad., March 9.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♂ ad., ♂ imm., ♀ imm., March 1.

Additional specimens. Valparaíso: San Alfonso, Quillota, ♂ ad., June 23, 1894. F. Lataste; Valparaíso, adult (not sexed). Burnett and Fitzroy (*Fulica frontata* Gray).—Santiago: Hacienda de Convento, near San Antonio, ♂ ad., Dec. 5, 1889. A. Lane.—Ñuble: San Carlos de Chillan, ♂ juv., April 13, 1895. F. Lataste.—Concepción: Talcaguano, ♂ ad., Sept. 18, 1879. R. W. Copping (SS. "Alert").

This is the commonest coot in Chile, especially in the central and southern provinces, where it is reported to breed in large numbers. The large feet, the reddish tarsi, and the absence of prominent white tips to the secondaries serve to distinguish it from *F. leucopygia*.

The eggs are described by Landbeck as being similar to those of *F. rufifrons*, but more roundish with rougher shell and of a more olive brownish color with more numerous dusky spots of unequal size. Pässler tells us that around Coronel this coot breeds in October and early November. It was clearly the same species that Bridges¹ found in abundance on the lakes of Quintero and Santo Domingo in central Chile. Plate secured specimens in the breeding season at La Serena, Coquimbo (October), as well as on the shores of Lake Llanquihue (November). R. Barros met with this coot in the lagoons of the Cordilleras of Aconcagua up to an elevation of 10,000 feet. In the south it leaves the nesting grounds at the approach of the rainy season, and repairs to the lagoons along the seacoast.

Sclater, in a footnote to Lane's paper (*Ibis*, 1897, p. 302), claims that this collector obtained *F. armillata* in Tarapacá, but this appears to be a mistake, since no authentic examples from this province are in the British Museum collection.

Outside of Chile, *F. armillata* is widely diffused in Argentina, Paraguay, Uruguay, and southern Brazil (Rio Grande do Sul to São Paulo).

260. *Fulica leucoptera* Vieillot

Fulica leucoptera Vieillot, *Nouv. Dict. Hist. Nat.*, nouv. éd., 12, p. 48, 1817—based on Azara, No. 447, Paraguay and Buenos Aires; Sclater (4), 1886, p. 403—Huasco, Tarapacá; Lane, p. 302—Sacaya, Tarapacá; E. Reed (4), p. 209—Chile; Schalow (2), p. 667—Lago Llanquihue; Pässler (3), p. 436—Coronel (breeding habits); Wetmore (3), p. 120—Rio Aconcagua, near Concon, Valparaiso.

Fulica chloropoides Philippi and Landbeck (6), p. 503—Chile and Arica, "Peru" (monog.); Landbeck (3), pp. 218, 224, 227—Magellan, Valdivia, Santiago, Arica (crit.); Philippi (12), p. 279—Chile to Straits of Magellan; Gigoux, p. 84—Caldera, Atacama.

Fulica stricklandi Sclater (2), 1867, pp. 334, 339—Chile.

Range in Chile.—From Tacna to the Straits of Magellan.

Material collected.—Concepción: Penco, two ♂♂ ad., July 20, Aug. 26, 1904. C. S. Reed.

Additional specimens.—Tarapacá: Huasco, ♀ ad., Feb. 17, 1886. C. Rahmer; Sacaya, ♀ ad., Jan. 24, 1890. A. Lane.—Temuco: Pelal, ♀ ad., May 11, 1910. A. C. Saldaña; Maquehue, ♂ ad., ♀ ad., Sept. 14, 23. D. S. Bullock (British Museum).

Birds from Tarapacá are precisely similar to others from Concepción and Temuco, all having the secondaries widely tipped with

¹The identity results from the note "legs reddish brown" (Fraser, l. c., p. 118) and from one of his specimens in the British Museum.

white, a very prominent white margin along the outer web of the first primary, and the posteriorly rounded frontal plate scarcely darker than the yellowish bill.

This species has the widest range in Chile. It extends north to the Peruvian border, specimens having been taken in the Andes of Tarapacá by both Rahmer and Lane. Landbeck records a young bird even from so far north as Arica, where, according to Froben, it is, however, of rather unusual occurrence. It is stated to breed on the lakes around Santiago, Valdivia, and in Llanquihue. Pässler found it breeding in October near Coronel. Its eggs are described by Landbeck as being smaller, paler, and more thickly spotted than those of the other species occurring in central Chile. In the south it ranges to the Straits of Magellan and Tierra del Fuego, and is also found throughout Argentina, eastern Bolivia (San Miguel, Chiquitos), Uruguay, and extreme southern Brazil (Rio Grande do Sul).

261. *Jacana spinosa jacana* (Linnaeus)

Parra jacana Linnaeus, Syst. Nat., 12th ed., 1, p. 259, 1766—based on Marcgrave, Edwards, and Brisson, restr. type locality, Surinam; Philippi (24), p. 71—Quillota, Valparaiso.

Range in Chile.—Once recorded from Quillota, Valparaiso.

Philippi states that a single specimen of the Jacana was caught in the vicinity of Quillota in 1895. Its occurrence in Chile is doubtless accidental.

262. *Belonopterus cayennensis occidentalis* (Harting)¹

Vanellus occidentalis Harting, P. Z. S. Lond., 1874, p. 450—Chile, Patagonia, and (?) Falkland Islands; Sharpe, p. 14—Talcaguano.

Vanellus griseus Prazák, Orn. Monatsber., 4, p. 23, 1896—northern Chile.

Belonopterus cayennensis molina Lowe, Bull. Brit. Orn. Cl., 41, p. 111, 1921—new name for *B. chilensis* auct. nec Molina.

Charadrius cayanus (errore) Meyen, p. 106—Chile.

Philomachus cayanus Darwin, p. 127—Chile.

Vanellus cayennensis Bridges, p. 94—Colchagua; Des Murs (2), p. 400—Chile; Bibra, p. 131—Quillota and Santiago; Hartlaub (3), p. 215—Valdivia; Boeck, p. 509—Valdivia; Cassin, p. 195—interior of Chile; Germain, p. 313—Santiago (nesting habits); Frauenfeld, p. 639—Lake Aculeo,

¹*Parra chilensis* Molina (Saggio Stor. Nat. Chile, pp. 258, 344, 1782) I consider an unidentifiable *mixtum compositum* of *B. c. occidentalis* and *Jacana j. jacana*, although some of the characters were doubtless taken from the Lapwing. In addition to what is said about the two-lobed frontal shield, the passage: "il collo, il dorso e la parte anteriore delle ali di color violetto" is so utterly in disagreement with its characters that the name had better be dropped altogether.

Santiago; Pelzeln (2), p. 115—Chile; Sclater (2), 1867, pp. 331, 339—Chile; Philippi (12), p. 271—Chile; Lataste (1), p. CXV—Bureo (Chillan), Ñuble; l. c., p. CXVI—Ninhue (Itata), Maule; idem (5), p. LXII—Maule; Waugh and Lataste (1), p. LXXXVIII—Peñaflor, Santiago; idem (2), p. CLXXII—San Alfonso (Quillota), Valparaíso; Johow, p. 238—Mas A Tierra.

Philomachus chilensis Fraser (1), p. 117—on the plains near the Andes [of Chile].

Vanellus chiliensis Yarrell, p. 54—Chile (egg descr.).

Vanellus chilensis E. Reed (2), p. 566—Cauquenes, Colchagua; idem (4), p. 209—Chile; Schalow (2), p. 666—Ovalle, Coquimbo; Gigoux, p. 84—Caldera, Atacama.

Belonopterus chilensis Lane, p. 302—San Pedro (Concepción) and San Antonio (Valparaíso); Barros (4), p. 44—Ñilahue, Curicó; Passler (3), p. 444—(breeding habits).

Belonopterus cayennensis chilensis Barros (5), p. 172—Cordillera of Aconcagua; C. Reed (4), p. 146—Teno; Bullock, El Hornero, 3, p. 91 (nest).

Belonopterus cayennensis Housse (1), p. 51—Isla La Mocha, Arauco; idem (2), p. 149—San Bernardo, Santiago; Bullock (4), p. 201—Angol, Malleco.

Belonopterus chilensis chilensis Wetmore (3), p. 169—Concon (habits; crit.).

Belonopterus cayamensis (sic) Jaffuel and Pirion, p. 113—Marga-Marga, Valparaíso.

Range in Chile.—From Atacama (Caldera) to the Straits of Magellan.

Material collected.—Concepción: near coast of Concepción, two ♀ ad., April 4.—Malleco: Curacautin, ♂ ad., Jan. 8.—Cautin: Pelal, Temuco, ♂ ad., Aug. 21, 1912. A. C. Saldaña.—Chiloé Island: Cucao, ♀ ad., Dec. 23; Quellon, ♀ ad., Jan. 28.—Llanquihue: Casa de Richards, Rio Ñirehuau (alt. 2,000 feet), ♂ ad., March 4.

This form is closely similar to *B. c. lampronotus* (Wagler), of eastern Argentina, Uruguay, and Brazil, and agrees with it in the possession of a distinct gular stripe connecting the black of the throat with that of the breast; but it differs by more purely gray coloration of the head, more extensive black pectoral area, and generally broader as well as more compact gular stripe.

B. c. occidentalis apparently is not restricted to the western side of the Andes, since birds from Concepción (Tucumán), Tunuyán (Mendoza), and Chubut (Valle del Lago Blanco) are perfectly identical with the Chilean ones.

The "Queltrehue" is common in Chile, reaching the northern limit of its range at Caldera, where Gigoux shot a specimen on March 25, 1901. It is mostly confined to the plains and foothills, being rarely found above 3,000 feet elevation. Johow records it from Mas A Tierra (straggler ?).

263. *Ptiloscelys resplendens* (Tschudi)

Charadrius resplendens Tschudi, Arch. Naturg., 9, (1), p. 388, 1843—Andes of Peru.

Vanellus resplendens Sclater (4), 1886, p. 403—Sitani and Sacaya, Tarapacá; Philippi, Orn., 4, p. 159, 1888—Cana, Antofagasta; Sclater (6), 1891, p. 136—Tarapacá; E. Reed (4), p. 209—Tarapacá; Lane, p. 303—Sacaya and Sitani, Tarapacá.

Range in Chile.—Puna Zone of Antofagasta and Tarapacá.

Specimens examined.—Tarapacá: Sitani, two ♂♂ ad., Jan. C. Rahmer; Sacaya, three ♂♂ ad., one ♀ ad., Feb. and March. A. A. Lane (British Museum).

Chilean specimens agree with a series from Peru.

In Chile this lapwing is found only in the Cordilleras of the northern provinces from Antofagasta northwards. According to Lane, it closely resembles the preceding species in habits, and utters similar discordant cries when approached. It was observed from 8,000 to 12,000 feet in Tarapacá at Huasco, Sacaya, and Cancosa, where it appeared to be resident. Lane was told that it nests on the open ground about December, laying four eggs.

P. resplendens is widely diffused throughout the Temperate and Puna Zones of the Andes from northern Chile and northwestern Argentina to Ecuador.

264. *Squatarola squatarola cynosurae* Thayer and Bangs

Squatarola squatarola cynosurae Thayer and Bangs, Proc. New Eng. Zool. Cl., 5, p. 23, 1914—Baillie Island, Arctic America.

Range in Chile.—Once recorded from Caldera, Atacama. Winter visitor.

Material collected.—Atacama: Caldera, ♂ (in winter plumage), Dec. 2, 1923. E. Gigoux.

The Black-bellied Plover does not appear to have been listed previously from Chile, though it had been known as a winter visitor to Peru and Ecuador.

265. *Pluvialis dominicus dominicus* (Müller)

Charadrius dominicus P. L. S. Muller, Natursyst., Suppl., p. 116, 1776—based on "Pluvier doré de S. Domingue" Brisson, Orn., 5, p. 48, pl. 6, fig. 1, 1760; Santo Domingo.

Charadrius pluvialis (errore) Peale, p. 239—coast of Chile.

Charadrius virginianus Fraser (1), p. 148—Chile.

Charadrius marmoratus Des Murs (2), p. 403; Housse (1), p. 51—Isla La Mocha, Arauco.

Charadrius virginicus Sclater (2), 1867, pp. 331, 339—Chile; Philippi (12), p. 272—"Cordilleras" of central provinces; E. Reed (4), p. 209—Chile.

Range in Chile.—Recorded from the central provinces and Arauco (Isla La Mocha).

The American Golden Plover is an uncommon winter visitant to Chile. The only specimen we have seen appears to be referable to the eastern form, not to *P. d. fulvus* (Gmelin).

266. *Zonibyx modestus* (Lichtenstein)

Charadrius modestus Lichtenstein, Verz. Doubl. Berliner Mus., p. 71, 1823—Montevideo.

Squatarola cincta Darwin, p. 126—Chiloé Island.

Squatarola urvillii (ei) Fraser (1), p. 118—Chile; Des Murs (2), p. 401—Chile; Hartlaub (3), p. 215—Valdivia; Philippi (12), p. 271—common on the coast of Chile.

Squatarola modesta Pelzein (2), p. 115—Chile.

Eudromias modesta Sclater (2), 1867, pp. 331, 339—Chile; Lane, p. 303—on the beach near Arauco; E. Reed (4), p. 209—Chile (winter visitor from the south); Bullock (4), p. 202—Angol, Malleco (winter).

Zonibyx modesta Ridgway (2), p. 137—Port Otway; Sharpe, Cat. B. Brit. Mus., 24, p. 238, 1896—"Tarapacá"—Arauco.

Range.—Central and southern provinces. Winter visitor from the south.

Material collected.—Atacama: Caldera, ♂ ad. (winter plumage), May 11, 1924. E. Gigoux.—Llanquihue: Casa de Richards, Rio Ñirehuau, ♀ ad. (winter plumage), ♀ imm., March 15, 1923. H. B. Conover.—Guaitecas Islands: Melinka, Ascension Island, ♀ juv., Feb. 1, 1923. C. C. Sanborn.

Additional specimens.—Valparaíso: coast near Valparaíso, one adult (nuptial plumage), no date. G. F. Mathew.—Arauco: Maquegua, ♀ ad. (winter plumage), July 27, 1890. A. A. Lane; near Arauco City, Aug. 10, 1890. A. A. Lane.—Cautin: Nige, Tolten Viejo, ♀ (winter plumage), Feb. 28, 1905. D. S. Bullock; Almagro, ♂, ♀ (winter plumage), April 7, 1910. A. C. Saldaña (all in the British Museum).

This plover breeds in the Falkland Islands, Tierra del Fuego, along the Straits of Magellan, and in southern Patagonia. It is very doubtful if it nests anywhere within the region covered by this paper, although it may do so on the Guaitecas Islands, where Sanborn shot a full-grown bird in juvenile plumage on February 1.

Farther north in Chile it certainly is merely a winter visitor. According to Abbott (Ibis, 1861, p. 155), the birds disappear in April from their breeding grounds in the Falkland Islands, and start on their northward migration. In winter they are met with in large numbers in northern Argentina along the La Plata River, in Uruguay, and on the Chilean coast, specimens having been taken by Darwin on Chiloé Island, by Philippi around Valdivia, and by Lane on the beach near Arauco. The most northerly record is from Caldera, Atacama, where Gigoux secured a male in winter plumage on May 11.

267. *Charadrius falklandicus* Latham

Charadrius falklandicus Latham, Ind. Orn., 2, p. 747, 1790—based on "Rusty-crowned Plover" Portlock, Voyage round the World, p. 86 (with plate), 1789, Port Egmont, Falkland Islands; Wetmore (3), p. 165—Concon, Valparaiso.

Hiaticula bifasciata Fraser (1), p. 118—"shores and margins of lakes in Chile."

Hiaticula trifasciata Cassin, p. 195—vicinity of Santiago.

Charadrius trifasciatus Pelzeln (2), p. 116—Valparaiso; Philippi (12), p. 271—coast of Santiago "to Peru."

Aegialitis falklandicus Sclater (2), 1867, pp. 331, 339—Chile.

Aegialitis falklandica (sic) E. Reed (4), p. 209—Chile.

Charadrius pyrrhocephalus Philippi (12), p. 271—from the Straits of Magellan "to Peru"; (?) idem, Ornith., 4, p. 159—Brea, s. Antofagasta.

Oegialitis (sic) *falklandica* Housse (1), p. 51—Isla La Mocha, Arauco.

Range in Chile.—Breeding from the Straits of Magellan north to the Island of Chiloé, migrating in winter as far north as Coquimbo (?) and Antofagasta (Brea).

Material collected.—Chile: Cucao, ♂ ad., ♀ ad., Dec. 24.—Llanquihue: Casa de Richards, Rio Ñirehuau, one ♂ juv., seven ♀ ♀ juv., March 10–15, 1923 (Coll. H. B. Conover).

Additional specimens.—Coquimbo: Coquimbo, juv., March, 1873. G. Mathew (British Museum).—Santiago: ♀ imm. F. Leybold (British Museum).

The Falklandic Plover breeds on the Falkland Islands, in Tierra del Fuego, Patagonia, and southern Chile, north to Chiloé Island. In winter it migrates northwards, and is said to be not uncommon on the seashore of central Chile. We have examined in the collection of the British Museum a bird in juvenile plumage, taken by G. Mathew in March, 1873, at Coquimbo. Philippi records the species even from Brea in southern Antofagasta, but the identification is perhaps questionable.

268. *Charadrius alticola* (Berlepsch and Stolzmann)

Aegialitis alticola Berlepsch and Stolzmann, P. Z. S. Lond., 1902, 2, p. 51—Ingapirca, Junín, Peru.

Aegialitis occidentalis (not of Cabanis) Sclater (4), 1886, p. 403—Sitani, Huasco, and Cueva Negra, Tarapacá; idem (6), 1891, p. 137—Sacaya, Tarapacá; Sharpe, Cat. B. Brit. Mus., 24, p. 295, 1896—part, spec. a-g, Tarapacá; Lane, p. 303—part, Sacaya, Tarapacá.

Range in Chile.—Puna Zone of Tarapacá and Antofagasta.

Material collected.—Antofagasta: Ojo de San Pedro (alt. 12,400 feet), ♂ ad., May 2; twenty miles east of San Pedro (alt. 12,600 feet), three ♂ ♂ ad., three ♀ ♀ ad., Sept. 18, Oct. 6-8.

Additional specimens.—Tarapacá: Huasco, ♀ ad., ♂ juv., Feb. 17, 1886; Cueva Negra, ♂ ad., Feb. 10, 1886; Sitani, ♂ ad., ♀ ad., Jan. 17, 1886. C. Rahmer; Sacaya, ♂ ad., ♀ imm., April 18-24, 1890; Cancosa, ♂ ad., Jan. 28, 1890. A. A. Lane (all in the British Museum).

We have no topotypical material for comparison, but the Chilean series as well as specimens from the highlands of western Bolivia (Oruro and Challapata, Prov. Oruro) correspond precisely to the original description. *C. alticola* is indeed a near ally of *C. falklandicus* Lath., but is much smaller in all its dimensions, the bill in particular being much shorter and weaker. In coloration, too, it shows several striking differences, being much paler, more grayish brown above with the rufescent tinge on pileum and hind neck light pinkish cinnamon to pinkish cinnamon instead of orange cinnamon, while the lower parts lack the two broad black cross bands, so conspicuous in the southern species.

The series exhibits a certain amount of individual variation in the extent and intensity of the rufescent suffusion on the head. In some specimens (♂ ad., Cancosa, Tarapacá; ♂ ad., Ojo de San Pedro, Antofagasta; two ♂ ♂ ad., one ♀ ad., Challapata, Bolivia) the crown immediately behind the black post-frontal band is strongly washed with pinkish cinnamon, and the hind neck as well as the sides of the neck are largely cinnamon. This color, in one of the Challapata males, extends over the hind crown so as to conceal the grayish ground color. Other examples, notably a female from near San Pedro, Antofagasta, and one or two adults from Tarapacá, merely have the sides of the neck shaded with light pinkish cinnamon and a pale pinkish buff collar across the hind neck. The remaining individuals connect these two stages in various degrees. On each side of the foreneck there is a grayish brown patch, often tinged

with cinnamomeous and intermixed with a number of blackish spots. A good many specimens have a distinct pinkish cinnamon band across the breast; it is, however, frequently evanescent and sometimes barely suggested by a number of half-concealed pale grayish brown subterminal spots. In an adult female from Sitani, Tarapacá, this pectoral crescent, grayish brown mixed with dusky, is fully as wide as in the juvenile plumage of *C. falklandicus*, suggesting the close interrelation of the two species.

Adults taken from January to April are in worn breeding dress. A full-grown male in juvenile plumage, secured by C. Rahmer at Huasco, Tarapacá, on February 17, 1886, differs by lacking the black post-frontal band and by having just a faint buff tinge below the eye, while the grayish brown patch on the sides of the foreneck and the pectoral band are but slightly indicated.

In spite of superficial resemblance *C. alticola* is totally different from *C. a. occidentalis*, although Sharpe confused the two species, and Chubb (Ibis, 1919, p. 264) misidentified the highland bird of Bolivia with the South American race of the Snowy Plover. *C. alticola* may be readily separated from the latter by larger size; much stronger and longer, deep black (instead of light-colored) tarsi and toes; longer, slenderer bill; much more buffy or cinnamomeous suffusion on the head; grayish brown (instead of black) patch on the sides of the foreneck; finally, by the presence of a more or less distinct cinnamon or grayish brown pectoral band.

C. alticola is restricted in its range to the Puna Zone of southern Peru (Ingapirca, Junín; Puno), western Bolivia (Oruro), and northern Chile (south to Antofagasta). According to Lane, it lives in wet salt-marshes and brackish lagoons.

MEASUREMENTS

| Adult males | Wing | Tail | Bill |
|-------------------------------|-----------------|-------------|------------|
| Two from Challapata, Bolivia | 119,123 | 53,54 | 15,15 |
| Four from Tarapacá, Chile | 119,120,121,122 | 55,55,56,57 | 15,15,16,— |
| Four from Antofagasta, Chile | 120,121,121,123 | 54,55,55,55 | 16,16,—,— |
| Adult females | | | |
| Two from Oruro, Bolivia | 115,120 | 51,54 | 14½,16 |
| Two from Tarapacá, Chile | 118,120 | 52,54 | 15,15 |
| Three from Antofagasta, Chile | 120,122,123 | 51,55,55 | 15,15,15 |

269. *Charadrius alexandrinus occidentalis* (Cabanis)

Aegialitis occidentalis Cabanis, Journ. Orn., 20, p. 158, 1872—no locality [= Chile]; cf. idem, l. c., 32, p. VI, pl. 6, fig. 1, 1885 (type in Berlin Museum examined); Lane, Ibis, 1897, p. 303—part, Laraquete, Arauco (spec.

examined); Sharpe, Cat. B. Brit. Mus., 24, p. 295, 1896—part, spec. h, i, Laraquete, "Tarapacá."

Hiaticula azarae (not of Temminck) Darwin, p. 127—part, spec. ex Valparaiso (crit.; spec. examined); Cassin, p. 195—Chile.

Charadrius collaris (not of Vieillot) Des Murs (2), p. 402—Chile.

Charadrius azarae Pelzeln (2), p. 116—Chile.

Aegialitis nivosus (not of Cassin) Sclater (2), 1867, pp. 331, 333—Chile.

Aegialitis nivosus Sharpe, p. 15—Coquimbo; Salvin (2), p. 428—Chile; E. Reed (4), p. 209—Chile; Schalow (2), p. 665—Cavancha, near Iquique, and Totoralillo, Coquimbo¹ (spec. examined).

Charadrius cantianus (errore) Housse, Rev. Chil. Hist. Nat., 28, p. 51, 1923—Isla La Mocha, Arauco.

Charadrius alexandrinus occidentalis Neumann, Nov. Zool., 35, p. 215, 1929 (crit.).

Range in Chile.—From Arauco to Tarapacá (and along the Peruvian coast north to Ancon).

Material collected.—Atacama: Caldera, ♂ ad., Aug. 28, 1923. C. C. Sanborn; ♀ ad., June 8, 1924. E. Gigoux.—Aconcagua: Papudo, ♂ ad., Dec. 8, 1923.

Additional specimens.—Peru: Ancon, Lima, ♀ ad., Nov. 2, 1912. H. O. Forbes;² Lurin, Lima, ♂ ad., July 29, 1903. Lord Brabourne;² Mollendo, Arequipa, adult. Aug., 1878. H. Saunders;² Tambo Valley, Arequipa, three ♂♂ ad., Oct. 20, 28, Nov. 4, 1867. H. Whitely;²—Chile, Tarapacá: Cavancha (Iquique), adult and immature. May, 1893. L. Plate;³—Coquimbo: Totoralillo, immature. Oct., 1893. L. Plate;⁴—Valparaiso: Valparaiso, adult. G. F. Mathew;² "Patagonia" [=Valparaiso], adult. Jan. 4, 1837. C. Darwin;²—Arauco: Laraquete, ♂ ad., ♀ ad., Aug. 20, 1890. A. Lane;²—"Chile" (unspecified): seven adults. T. Bridges,² A. H. Markham,² L. Landbeck,² Segeth (type of *A. occidentalis*),³ and ex Verreaux.²

The occurrence of a Snowy Plover on the coast of Peru and Chile⁴ has been known for many years, but it was assumed that the birds were migrants from North America. On receiving the Chilean collection of the Marshall Field Expedition, I was struck by the fact that two of the specimens, both in nuptial plumage with

¹ Schalow also lists a male from Calbuco Island, near Puerto Montt, Llanquihue. This specimen being no longer in the Berlin Museum, its identification is open to doubt.

² In collection of British Museum (Natural History).

³ In collection of Berlin Museum.

⁴ Des Murs (in Gay, Hist. fis. pol. Chile, Zool., 1, p. 402) probably had the present bird in mind when listing *C. collaris* from Chile, though his description was evidently drawn up from a specimen of the latter species.

black post-frontal band, auriculars, and patch on the sides of the neck, had been taken in June and August, hence at a time when the Snowy Plover might be expected to be on its breeding grounds in the western United States. Moreover, Californian birds secured between August and December were found to be in winter plumage, the black markings on the head being replaced by grayish brown. Researches in literature then revealed that there was no reliable winter record for the North American *C. nivosus* from farther south than Mexico, and that no representative of this group occurred anywhere in Central America,¹ Colombia, or Ecuador. These facts pointed to the probability of the Chilean and Peruvian birds belonging to an endemic race, and this surmise was fully corroborated by the study of ample material in European collections.

Altogether twenty-three specimens, representing nearly every month of the year, have been examined from Chile and Peru, and notes on eleven additional ones in the American Museum of Natural History, New York, have been supplied by my former associate, Mr. J. T. Zimmer. Compared with some thirty skins from California and Lower California, the adults from the Pacific coast of South America have the occiput and hind crown more heavily washed with buff; the black post-frontal band generally wider; the back of a darker grayish brown; and the wings on average slightly longer. The amount of buffy suffusion is subject to some individual variation. It is most strongly pronounced in a bird from Mollendo (Peru), which has the whole crown (behind the black band) tinged with warm buff, passing into light ochraceous buff on the nape. Two specimens from unspecified localities in Chile are very similar, while the June bird from Caldera and one from Lurin, near Lima, have hardly less buffy on the head. When the buff tips are worn off and the crown becomes more grayish, *C. a. occidentalis* closely resembles its North American relative. The type of *A. occidentalis*, kindly lent by Dr. Stresemann, is an adult bird in somewhat worn plumage, and agrees perfectly with other Chilean examples. It was collected in 1872 by Dr. Segeth, a physician practising in Santiago, and probably came from the vicinity of that city.

All of the Chilean and Peruvian adults seen by me, regardless of season, wear the nuptial plumage, i.e., the post-frontal band, the auriculars, and the patch on the sides of the neck are black. It would appear that *C. a. occidentalis* does not assume a winter plumage.

¹The inclusion of "Costa Rica" by certain authors in its range goes back to Zeledón (Anal. Mus. Nac. Costa Rica, 1, p. 129, 1837), who does not appear to have seen any specimens, however.

Females are not always distinguishable, though the post-frontal band is, as a rule, not quite so extensive. An unsexed adult from Cavancha (Iquique), May, 1893, L. Plate coll., Berlin Museum, has the auricular patch somewhat duller, less blackish, than all the others. Two other (unsexed) birds—taken by the same collector at Cavancha (May) and Totoralillo, Coquimbo (October), respectively—while possessing a narrow black post-frontal band across the crown, are conspicuous for the neck patch and auriculars being grayish brown or dusky brown as in *C. a. nivosus*. Judging from the fluffy texture of the body plumage and the presence of pale fringes to the dorsal feathers and wing coverts I take them to be immature.

We have no definite record of eggs having been taken in Chile; but Mr. Sanborn tells me that this plover was doubtless nesting on the coast of Aconcagua, and the specimen obtained by him in December at Papudo is in worn breeding plumage. It probably breeds all along the sandy seacoast of Chile from Tarapacá to Arauco, the most southerly locality being Laraquete, where A. Lane secured a couple of adults on August 20 and 22 respectively. The American Museum of Natural History, New York, has three specimens (one ♂ ad., two ♀ ♀ ad.) taken by T. Hallinan in June and July, 1917, at Tofo, north of Coquimbo, as I am informed by Mr. Zimmer. On the coast of Peru this bird was for the first time found by H. Whitely, Jr., in the Tambo Valley, Arequipa,¹ and then again by C. Jelski at Chorillos, Lima.² Dr. C. R. Murphy secured breeding birds (of both sexes) in October and November, 1919, at Paracas, Pisca Bay, Ica, and R. H. Beck met with it in the same locality about the end of June. Besides, the American Museum has specimens, including an immature male, from Chorillos, collected by Beck in February, 1913. These data, supplemented by those of the British Museum material, clearly indicate that *C. a. occidentalis* is a permanent resident on the Peruvian littoral, at least as far north as Ancon.

The case of the Snowy Plover, represented by a breeding race on the Pacific coast of South America, offers an interesting parallel to the Killdeer which was recently shown by Chapman³ to be replaced in northwestern Peru by a closely allied resident form (*Oxyechus vociferus peruvianus*).

¹*Aegialites nivosus* Sclater and Salvin, P. Z. S. Lond., 1868, pp. 176, 570.

²*Aegialitis nirosa* Taczanowski, P. Z. S. Lond., 1874, p. 559.

³Auk, 37, p. 106, 1920—Paletillas, n. e. of Payta, Piura, Peru.

There is no question to my mind that both *C. nivosus* and *C. occidentalis* are merely geographical races of the European *C. alexandrinus*.

MEASUREMENTS

| | Wing | Tail | Bill |
|--|---------------------------------|---------------------------|----------------------------|
| One adult male from Lurin, Lima | 100 | 47 | 16 |
| One female from Ancon, Lima | 104 | 48 | 15 |
| Three adult males from Tambo, Arequipa | 102, 104, 108 | 42, 48, 48 | 15, 15, 15 |
| One (unsexed) adult from Iquique | 102 | 48 | 15 |
| One adult male from Caldera, Atacama | 109 | 53 | 14 |
| One female from Caldera | 109 | 50 | 14½ |
| One adult male from Papudo, Aconcagua | 110 | 50 | 14 |
| One adult male from Valparaiso | 110 | 49 | 14 |
| One adult male from Laraquete, Arauco | 107 | 52 | 14½ |
| One adult female from Laraquete | 110 | 49 | 14½ |
| Type of <i>A. occidentalis</i> , adult (unsexed) | 111 | 50 | 15 |
| Six (unsexed) adults from "Chile" | 105, 106, 106, 106, 109, 111 | 45, 45, 46, 47, 49, 49 | 14, 14, 14½, 15, 15, 15 |

In ten adult males of *C. a. nivosus* from California the wing ranges from 99 to 106, in fourteen females, from 101 to 108 mm.

270. *Charadrius semipalmatus* Bonaparte¹

Charadrius semipalmatus Bonaparte, Journ. Ac. Nat. Sci. Phila., 5, p. 98, 1825—based on *Tringa hiaticula* Wilson (Amer. Orn., 7, p. 65, 1813) and *Charadrius hiaticula* Ord (Wilson's Amer. Orn., 7, p. 69, 1824), coast of New Jersey.

Aegialitis semipalmata Salvin (2), p. 423—Coquimbo Lagoon.

Aegialitis senupalmata (sic) E. Reed (4), p. 209—Chile.

Aegialeus semipalmata Schallow (2), p. 665—Punta Teatinos (Coquimbo) and Calbuco, near Puerto Montt.

Range in Chile.—From Coquimbo to Llanquihue. Winter visitor.

The Semipalmated Plover is a rather uncommon winter visitant to Chile. Admiral (then Captain) Markham secured a single bird in November, 1881, in the Coquimbo Lagoon, while Plate shot one in November, 1893, at Punta Teatinos, north of Coquimbo, and another on Calbuco Island, near Puerto Montt, Llanquihue (date not recorded).

[*Aegialites albidipectus* Ridgway (Proc. U. S. Nat. Mus., 5, "1882," p. 526, March, 1883), supposed to be from "Chile," apparently refers to an African species, *C. marginatus* Vieillot.]

¹Sharpe (Cat. B. Brit. Mus., 24, p. 260, 1896) claims that *Charadrius hiaticula* Linn. is an accidental visitor to Chile. Although the species has been admitted to the Chilean fauna by Ridgway, the A. O. U. Check List, and Hartert (who, in Vög. Pal. Fauna, 2, p. 1534, suggests it might be *C. h. tundrae* Lowe rather than the typical form), there is no evidence that the Ringed Plover ever occurred in that country.

271. *Oxyechus vociferus peruvianus* Chapman

Oxyechus vociferus peruvianus Chapman, Auk, 37, p. 106, 1920—Paletillas, near Payta, Piura, Peru.

Oxyechus vociferus Sharpe, Cat. B. Brit. Mus., 24, pp. 242, 247, 1896—Chile.

Range in Chile.—Once recorded from an indefinite locality.

Sharpe lists a single specimen from "Chile" in the H. Berkeley James Collection. This bird is much more likely to be referable to the South American race of the Killdeer recently described by Chapman, which is known to breed on the Peruvian coast from Piura to Arequipa. Unfortunately, I could not find it in the collection of the British Museum.

272. *Oreophilus ruficollis* (Wagler)

Charadrius ruficollis Wagler, Isis, 1829, p. 653—Canelones, Uruguay.

Oreophilus totanirostris Jardine and Selby, Illust. Orn., 3, Part 10, pl. 151, Dec., 1835—Andes of Chile.

Dromicus lessonii Lesson, Écho du Monde Savant, 11, No. 26, col. 616, April, 1844—Valparaiso.

Oreophilus totanirostris Darwin, p. 125—Valparaiso; Fraser (1), p. 117—Chile, probably a native of the Andes; Des Murs (2), p. 399—from the Straits of Magellan to Valparaiso; Pelzeln (2), p. 114—Chile; Philippi (12), p. 271—Chile.

Oreophilus ruficollis Sclater (2), 1867, pp. 331, 339—Chile; E. Reed (2), p. 566—Cordillera of Colchagua; Sclater (4), 1886, p. 403—"Lalcalhuay," Tarapacá; E. Reed, Ibis, 1893, p. 596—Chile (resident); idem (4), p. 209—Chile; Schalow (2), p. 664—Concepción; Barros (4), p. 44—Cerros near Nilahue, Curicó; Housse (2), p. 150—San Bernardo, Santiago; Gigoux, p. 84—Caldera (winter visitor); Jaffuel and Pirion, p. 113—Marga-Marga, Valparaiso; Bullock (4), p. 201—Angol, Malleco (winter visitor).

Oreophilus ruficollis Barros (8), p. 143—Nilahue, Curicó.

Range in Chile.—From Tarapacá to the Straits of Magellan.

Material collected.—Tarapacá: Pica (alt. 4,000 feet), ♀ imm., May 25.—Atacama: Caldera, two ♂♂ ad., Aug. 29.—Llanquihue: Casa de Richards, Río Ñirehuau, three ♀♀ imm., March 10; Arroyo Verde, Argentine boundary, ♀ imm., March 17.

Additional specimens examined.—Tarapacá: "Lalcalhuay," ♂ ad., Jan. 27, 1886. C. Rahmer (British Museum).—Santiago: Cordillera of Santiago, ♀ ad., Dec., 1864. R. A. Philippi (British Museum).—Concepción: Cabrero, ♀ ad., June 28, 1903. C. S. Reed (Tring Museum).—Malleco: Angol, ♂ ad., Jan. 6, 1904. C. S. Reed (Tring Museum).

Study of nearly fifty specimens from throughout the range clearly shows that none of the proposed races of the Rufous-throated Plover can be maintained. Lowe¹ considered the Chilean form (*O. r. totanirostris*) to be separable from *rufigollis* "ex Patagonia" by reason of its "fulvous-brown" hind neck and upper parts and its buff instead of gray under parts. I cannot help thinking that this sentence must be disfigured by a misprint, for I have yet to see a Rufous-throated Plover with gray under parts. In every specimen of this species, regardless of locality, the breast only is *underlaid* with grayish, while the remainder of the belly is buff, varying in shade according to season. As a matter of fact, Chilean birds appear to me indistinguishable from Patagonian examples in comparable plumage. *O. r. simonsi* Chubb² has no better claims for recognition,³ as not one of the characters insisted upon by the describer holds good. The buff edges to the dorsal plumage and the hind neck do not differ in tone nor is the belly deeper buff than in southern examples, which are by no means mostly white below. Only one (the type) out of eight specimens from the range assigned to *O. r. simonsi* has the throat darker rufous, while others, in this respect, are even paler than the average from Patagonia. Northern birds are perhaps slightly larger, but the divergency is insignificant, as will be seen from the appended measurements of the wing.

Peru.—♂ ad., Islay, 173; ♀ ad., Lobos de Tierra, 170.

Bolivia.—♂ ad., Challapata (type), 177; two ♂♂ ad., Uyuni, Potosi, 163, 165; ♀ ad., Uyuni, 175.

Tarapacá.—♂ ad., Lalcachuay, 167; ♀ ad., Pica, 160.

Atacama.—Two ♂♂ ad., Caldera, 165, 170.

Central Chile.—♀ ad., Cordillera of Santiago, 165; ♀ ad., Cabrero, Concepción, 164; ♂ ad., Angol, Malleco, 160.

Argentina.—♂ ad., Sierra de Tafi, Tucumán, 160; two ♀♀ ad., Chubut, 162, 165; two ♀♀ ad., Rio Negro, 165, 167; ♂ ad., Rio Negro, 160; three ♂♂ ad., Buenos Aires, 162, 163, 166; ♀ ad., Barracas al Sud, 160; two ♀♀ ad., Rio Gallegos, 157, 162.

Falkland Islands.—♂ ad., Port Stanley, 167.

The "Pollo del Campo," according to Philippi, Landbeck, E. Reed and others, breeds in the high Cordilleras, and visits the plains

¹Bull. Brit. Orn. Cl., 42, p. 19, 1921.

²Ibis, (11th ser.), 1, p. 262, 1919—Challapata, Lake Poopo, Bolivia.

³The description is rather confused, since there is never any olive in the coloration of the species.

on migration and in winter. Its breeding range probably extends north to Tarapacá and the adjacent parts of the Bolivian plateau (Oruro, Potosi). An adult male secured by Rahmer on January 27, 1886, at Lcalchhuay is in slightly worn plumage. In Peru this species seems to occur merely as a winter visitor.

273. *Arenaria interpres morinella* (Linnaeus)

Tringa morinella Linnaeus, Syst. Nat., 12th ed., 1, p. 249, 1766—based on Catesby, Nat. Hist. Carolina, 1, p. 72, pl. 72, 1731, coast of Florida.

Streptilas interpres Darwin, p. 132—Iquique, Tarapacá; Fraser (1), p. 118—Chile; Des Murs (2), p. 407—Chile; Pelzeln (2), p. 117—Chile; Sclater (2), 1867, p. 339—Chile; Philippi, Reise Wüste Atacama, p. 163—Paposo, Antofagasta; idem (12), p. 273—coast of Chile; Sharpe, p. 15—Talcaguano; Philippi, Ornith., 4, p. 159—Paposo; E. Reed (4), p. 209—Chile; Schalow (2), p. 664—Islas dos Pajaros, Coquimbo; Housse (1), p. 51—Isla La Mocha, Arauco; Gigoux, p. 67—Caldera, Atacama.

Range in Chile.—From Tarapacá to Arauco. Winter visitor.

Material collected.—Atacama: Caldera, two ♂♂ ad., one ♀ ad., March 26.—Aconcagua: Papudo, ♀ ad., Dec. 1.

The Turnstone is a winter visitor to Chile. There are various records of its occurrence in the northern and central provinces (Iquique, Tarapacá; Paposo, Antofagasta; Caldera, Atacama; Papudo, Aconcagua; Coquimbo; Talcaguano, Concepción; Isla La Mocha, Arauco), but none from southern Chile. Boeck (p. 509) states that he never saw the species around Valdivia.

Our specimens are just in the process of acquiring the nuptial plumage. They are slightly larger (wing of adult males 152, 154) than a series from Alaska, but agree perfectly in coloration. I am inclined to follow Murphy's contention¹ that South American Turnstones should be referred to *A. i. morinella* rather than *A. i. interpres*.

274. *Aphriza virgata* (Gmelin)

Tringa virgata Gmelin, Syst. Nat., 1, (2), p. 674, 1789—based on "Streaked Sandpiper" Latham, Gen. Syn. Birds, 3, (1), p. 180, 1785, "Sandwich Sound" = Prince William Sound, Alaska.

Aphriza townsendii Fraser (2), p. 157—Chile.

Streptilas borealis Des Murs (2), p. 408—"en las costas de Chile"; Philippi, Reise Wüste Atacama, p. 163—Paposo, Antofagasta; idem (12), p. 273—from Valdivia to Peru; idem, Ornith., 4, p. 159—Paposo.

Aphriza virgata Sclater (2), 1867, pp. 331, 339—Chile; E. Reed (4), p. 210—Chile.

Tringa borealis Housse (1), p. 51—Isla La Mocha, Arauco.

¹Bull. Amer. Mus. N. H., 55, p. 190, 1926.

Range in Chile.—From Antofagasta to the Straits of Magellan. Winter visitor.

The Surf-bird, whose breeding place has lately been discovered in Alaska, visits Chile on its winter migration. According to Philippi, the Santiago Museum has five specimens, one of which is specifically stated to be from Valdivia. In his "Reise durch die Wüste Atacama" the species is recorded from Paposo, coast of Antofagasta. During the cruise of the "Alert," R. W. Coppinger, as reported by Sharpe (P. Z. S. Lond., 1881, p. 15), secured a male on February 15, 1879, on Van Island, Trinidad Channel, in the Straits of Magellan.

275. *Haematopus ater* Vieillot and Oudart

Haematopus ater Vieillot and Oudart, Gal. Ois., 2, p. 88, pl. 230, 1825¹—part, "au détroit de Magellan" (type in Paris Museum examined); Peale, p. 245—Valparaíso; Cassin, p. 198—Chile; Sclater (2), 1867, pp. 331, 339—Chile; Sclater and Salvin, Ibis, 1870, p. 499—Puerto Laguna, Chonos Archipelago; Salvin, Ibis, 1874, p. 37—Mas Afuera (?); E. Reed (4), p. 210—Chile; Schallow (2), p. 664—Isla dos Pajaros, Coquimbo; E. Reed (5), p. 50—coast of Chile; Pässler (1), p. 103—Arica.

Haematopus niger Fraser (1), p. 116—along rocky shores [of Chile]; Des Murs (2), p. 406—Chile; Hartlaub (3), p. 215—Valdivia; Boeck, p. 509—Corral, Valdivia; Pelzeln (2), p. 117—Chile; Philippi (12), p. 272—central provinces; Housse (1), p. 51—Isla La Mocha, Arauco; Gigoux, p. 87—Caldera, Atacama.

Range in Chile.—From the Straits of Magellan to the Peruvian border.

Material collected.—Chiloé Island: Rio Inio, three ♂♂ ad., two ♀♀ ad., Jan. 8–14, 1923. H. B. Conover.—Atacama: Caldera, ♀ ad., Aug. 28, 1923. C. C. Sanborn.

The Black Oyster-catcher, immediately recognizable by its elevated, excessively compressed bill, breeds in suitable localities all along the Chilean and Peruvian coast, north to Ancon. On Chiloé

¹ Oberholser (Proc. Biol. Soc. Wash., 31, p. 47, 1918) calls the South American Black Oyster-catcher *H. townsendi* Audubon, 1838, based on a specimen erroneously supposed to have been obtained by Townsend somewhere on the Pacific Coast of North America. According to the dates of publication of the "Galerie des Oiseaux," as worked out by Mathews (Austr. Av. Rec., 2, pp. 153–158, 1915), Vieillot's name, however, appears to have priority by many years. Inspection of the specimens in the Paris Museum shows that Vieillot did not distinguish between the South American and the Australian species (*H. fuliginosus*), and while his description might equally be referred to either, the original of the plate—marked as such—unquestionably pertains to the first-named. It was secured by Quoy and Gaimard (collectors' No. 258), naturalists of the "Uranie" and "Physicienne" under the command of Captain Freycinet, and is stated to have come from "la baie des Chiens Marins, Nouvelle Hollande" [= Shark's Bay, Australia]. The locality is an obvious mistake, since the bird agrees in every respect, particularly in the characteristic shape of the bill, with others from the Straits of Magellan.

Island it was found breeding with the two other species, but seemed to prefer rocky rather than sandy shores. Its occurrence in Mas Afuera is open to doubt.

The Caldera bird agrees with those from more southern localities.

276. *Haematopus ostralegus pitanay* Murphy

Haematopus palliatus pitanay Murphy, Amer. Mus. Nov., 194, p. 1, 1925—Pisco Bay, Ica, Peru.

Haematopus palliatus (not of Temminck) Fraser (1), p. 116—sandy shores north of Valparaíso; Des Murs (2), p. 406—Chile; Cassin, p. 197—Chile; Germain, p. 314—near the borders of the sea, Santiago (nesting habits); Pelzeln (2), p. 117—Chile (egg); Sclater (2), 1867, p. 339—Chile; Philippi, Reise Wüste Atacama, p. 163—Chañaral, Atacama; idem (12), p. 272—central provinces; Sclater and Salvin, Ibis, 1870, p. 499—Ancud, Chiloé; Philippi, Ornith., 4, p. 159—Chañaral, Atacama; E. Reed (4), p. 210—Chile; idem (5), p. 50—Chile; Gigoux, p. 87—Caldera, Atacama.

Haematopus frazari (not of Brewster) Lane, p. 303—Arauco; Schalow (2), p. 663—Chile.

Range in Chile.—From the northern boundary to Chiloé Island.

Material collected.—Chiloé Island: Cucao, ♂ ad., ♀ ad., Dec. 22, 23; Rio Inio, ♂ ad., ♀ ad., Jan. 7, 10. H. B. Conover.

The six American races classed under the name *H. palliatus* are clearly conspecific with the European Oyster-catcher. This has recently been pointed out by Stresemann,¹ and an independent investigation of the problem leads me to essentially the same conclusions. In structural details the New World representatives agree perfectly with the European bird, while the close resemblance of the adult plumage of *H. palliatus* to the juvenile stage of *H. ostralegus* affords additional evidence for their genetic relationship. Their natural affinities are, therefore, best expressed by the use of trinomials, taking *ostralegus* as the specific name.

The Oyster-catcher of the coasts of Chile and Peru, justly separated by Murphy as *H. o. pitanay*, is very similar to *H. o. palliatus* in general coloration, but smaller in all dimensions and lacks the white markings on the inner primaries. In the latter respect it resembles *H. o. frazari*, of Lower California and western Mexico, which is, however, somewhat larger and has a black and white mottled zone on the lower end of the blackish gular area, while in *H. o. pitanay* the black of the foreneck is abruptly defined against the white of the belly.

¹Ornith. Monatsber., 35, pp. 71-73, 1927.

H. o. pitanay is the common Oyster-catcher breeding on the arid seacoast of Chile, but it does not seem to range farther south than Chiloé Island, where it was found nesting in company with *H. leucopodus* and *H. ater* by the members of Field Museum Expedition.

In the north it extends all along the coast of Peru to southwestern Ecuador (Gulf of Guayaquil). Specimens from the latter country, we are told by Murphy, show an approach to *H. o. palliatus* by having a slight suggestion of white on the inner primaries.

277. *Haematopus leucopodus* Garnot

Haematopus leucopodus Garnot, Ann. Sci. Nat., 7, p. 47, 1826—Iles Malouines.

Haematopus leucopus Boeck, p. 509—Chiloé, Rio Pudeto, and Bay of "Reloncaoi" [=Reloncaví], Llanquihue; Philippi (12), p. 272—southern Chile to Straits of Magellan; E. Reed (4), p. 210—Magellania and southern Chile; idem (5), p. 50—Chile; Blaauw (1), p. 70— island east of Achao, Chiloé; (?) Housse (1), p. 51—Isla La Mocha, Arauco.

Range in Chile.—From the Straits of Magellan north to Chiloé Island and (?) Arauco (Isla La Mocha).

Material collected.—Chiloé Island: Rio Inio, ♂ ad., two ♀ ♀ ad., Jan. 12–18, 1923. H. B. Conover.

This Oyster-catcher is obviously quite different specifically. It may be distinguished from the other white-bellied species (*H. o. pitanay*) by glossy black (instead of hair brown) back and wings; wholly white upper tail coverts (the middle ones not mottled or spotted with brown); black (instead of white) under wing coverts; the extension of the black all over the chest; yellow instead of crimson eyelid; decidedly shorter, stouter tarsi; and wider nails with prominent lateral flange.

Birds from Chiloé Island are identical with others from Patagonia and the Falklands.

H. leucopodus is of more southerly distribution than the preceding species. It breeds on the Falkland Islands and in the Straits of Magellan, extending north on the Atlantic side to the Chubut, and on the west coast to Chiloé Island. Housse lists it as a visitant to the Isla La Mocha, Arauco, but perhaps this record refers to the superficially similar *H. o. pitanay*.

278. *Himantopus himantopus melanurus* Vieillot

Himantopus melanurus Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 10, p. 42, 1817—based on "Zancudo" Azara, No. 398, Paraguay.

Himantopus nigricollis Fraser (1), p. 117—margins of lakes and rivers [of Chile]; Des Murs (2), p. 424—Chile; Bibra, p. 131—common around the lakes near Santiago; Cassin, p. 196—Chile; Germain, p. 313—Santiago (nesting habits); Pelzeln (2), p. 131—Chile; Sclater (2), 1837, p. 339—Chile; Philippi (12), p. 276—Chile; E. Reed (2), p. 567—Hacienda de Cauquenes, Colchagua; Lataste (9), p. 171—Lake Aculeo, Santiago.

Himantopus brasiliensis E. Reed (4), p. 210—lagunas of the central provinces; Jaffuel and Pirion, p. 113—Marga-Marga, Valparaiso; Bullock (4), p. 202—Angol, Malleco.

Range in Chile.—Central provinces. Recorded from Cauquenes, Colchagua, the vicinity of Santiago, and Angol, Malleco.

The Black-tailed Stilt is reported to be not uncommon in the central provinces, though as yet little is known regarding its distribution. According to Bibra, it is frequent around the lakes near Santiago, and Lataste met with it on Lake Aculeo. Germain, whose notes refer to the same district, tells us that it lays in November three or five eggs in the marshes, choosing for this purpose slight elevations, where it puts together a few dry grasses in the form of a nest. Edwyn Reed lists it as uncommon in the Hacienda de Cauquenes, Colchagua.

279. *Recurvirostra andina* Philippi and Landbeck

Recurvirostra andina Philippi and Landbeck, Anal. Univ. Chile, 19, p. 618, 1861—Laguna "Parunicota" [=Parinacota], Tacna; idem, Arch. Naturg., 29, (1), p. 131, 1863—"Parunicota"; Harting, Ibis, 1874, pp. 241, 257, pl. 9—Parinacota; Sclater (4), 1886, p. 404—Huasco, Tarapacá; Philippi, Orn., 4, p. 160—northern Chile (locality not specified); Rahmer, Journ. Orn., 35, p. 161, 1887—Cordilleras of Tarapacá and Atacama; Sclater (6), 1891, p. 137—Sacaya and Lake Huasco, Tarapacá; E. Reed (4), p. 210—Tarapacá; Lane, p. 308—Lake Huasco and Sacaya, Tarapacá (habits); Philippi (24), p. 64, pl. 32—Parinacota (Tacna), Inacaliri and Incahuasi (Antofagasta).

Range in Chile.—Puna Zone from Tacna to Atacama.

Material collected.—Antofagasta: twenty miles east of San Pedro (alt. 12,600 feet), two ♂♂ ad., one ♀ ad., Sept. 18, Oct. 6, 1923.

The Andean Avocet was discovered by Froben, in June, 1853, on the Laguna de Parinacota, in the Cordillera of Tacna, at an elevation of 16,000 feet. Subsequently, the collectors of the late H. Berkeley James secured a small series in the Andes of Tarapacá, which, after his death, passed into the collection of the British Museum. According to Ambrose Lane, this bird is peculiar to the salt-marshes, occurring in the Cordillera of Tarapacá (alt. 8,000 to 12,000 feet). He found it plentiful about Huasco and a few occurred at Sacaya in one spot, which was a stretch of saltish sediment with

from two to nine inches of water on it, but it never resorts to swamps or grassy slopes. The birds are said to be resident and to nest about November on the shores of the water they frequent, laying four or five eggs. In Antofagasta F. Philippi met with the Avocet at Inacaliri and Incahuasi, while Sanborn noticed it at Ojo de San Pedro in April, May, September, and October.

Rahmer gives Maricunga, in the Andes east of Copiapó, as the southern limit of its range.

The Andean Avocet has rather a restricted range. Besides in northern Chile, it has been recorded from several localities in Peru (Ingapirca, Junín; Laguna de Pahara, Puno). I have also seen many specimens in the Berlepsch Collection secured by the Garlepp brothers at Esperanza and Sajama (alt. 13,000 feet), Prov. Oruro, Bolivia.

280. *Phalaropus fulicarius* (Linnaeus)

Tringa fulicaria Linnaeus, Syst. Nat., 10th ed., 1, p. 148, 1758—based on "The Red-footed Phalarope" Edwards, Nat. Hist. Birds, 3, p. 142, pl. 142, Hudson Bay.

Phalaropus platyrhynchus Meyen, p. 107—Coquimbo.

Lobipes hyperboreus Lesson, Écho du Monde Sav., 11, 2nd sem., No. 8, col. 183, July 28, 1844—Chile.

Lobipes antarcticus Lesson, Écho du Monde Sav., 11, 2nd sem., No. 8, col. 183 (in text), July 28, 1844—Chile; idem, Compl. Oeuvr. Buffon, éd. Lévêque, 20 (Descr. Mamm. et Ois.), p. 238, 1847—Chile; Sclater (2), 1867, p. 332—Chile (ex Lesson).

Phalaropus antarcticus Des Murs (2), p. 431—Chile; Philippi (12), p. 277—Valdivia; idem, Verh. Deuts. Wiss. Ver. Santiago, 2, p. 267, pl. 4, 1893—Santiago (April), Valdivia (November), Chiloé (February) (crit.); idem (24), p. 66, pl. 27, fig. 2—same localities (Spanish translation of preceding).

Phalaropus fulicarius Des Murs (2), p. 430 (ex Meyen); Philippi (12), p. 278 (ex Meyen); Salvin (2), p. 429—Coquimbo Bay (Nov., 1881); E. Reed (4), p. 210—Chile; Nicoll, Ibis, 1904, p. 50—Valparaiso Bay (Feb. 18).

Crymophilus fulicarius Sharpe, Cat. B. Brit. Mus., 24, p. 693, 1896—Coquimbo, Chile, and off Juan Fernandez; Schalow (2), p. 662—Chile.

Range in Chile.—From Coquimbo to Chiloé Island. Winter visitor.

The Red Phalarope is now known as a regular, though not very common winter visitor to central Chile. It was first recorded by Meyen, who shot a specimen in winter plumage towards the close of the summer on the open sea near Coquimbo. Lesson founded a new species on Chilean specimens changing from the winter into the

nuptial plumage. At first, the name *L. antarcticus* was proposed tentatively in the text of a description, but in a later communication the Chilean bird was accorded full specific rank. Philippi, in a little-known paper published at Santiago in 1893, treats of this bird at length, giving, besides a colored figure, various details on six specimens in the Chilean National Museum, from Santiago, Valdivia, and Chiloé Island.

From the data at hand it results that the Red Phalarope arrives in Chile in September and stays there all winter until April, when it departs on its northward migration. Specimens have been taken at Coronel (Sept. 13, 15; Berlin Museum), Valdivia (November; Philippi), Coquimbo (November; Markham), Chiloé (February; Philippi), Valparaíso Bay (March 18; M. J. Nicoll), and Santiago (April; Philippi).

281. *Steganopus tricolor* Vieillot

Steganopus tricolor Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 32, p. 136, 1819—based on Azara, No. 407, Paraguay; Sclater (2), 1867, p. 332—Chile.

Phalaropus wilsonii Fraser (1), p. 118—Lake Quintero, Valparaíso; Schlegel, Mus. Pays-Bas, 5, No. 27 (Scolopaces), p. 60, 1864—Chile; Sclater (2), 1867, p. 339—Chile; Philippi, Verh. Deuts. Wiss. Ver. Santiago, 2, p. 270, pl. 5, 1893—Iquique, Tarapacá (Sept.), and Rancagua, O'Higgins (Sept.); idem (24), p. 68, pl. 31—same localities (Spanish translation of preceding); E. Reed (4), p. 210—Chile.

Phalaropus lobatus (errore) Des Murs (2), p. 432—coast of Valparaíso; Philippi (12), p. 277—Chile and "Peru."

Phalaropus frenatus Pelzeln (2), p. 132—Chile.

Range in Chile.—Occasional winter visitor. Recorded from Iquique (Tarapacá), Quintero (Valparaíso), and from Rancagua (O'Higgins).

Material examined.—Chile (unspecified): one adult (winter plumage). J. Zelebor (Vienna Museum).

Wilson's Phalarope is reported as a rare winter visitant to Chile. Gay and Bridges state that it is sparingly met with along the coast of Valparaíso, and Philippi discusses four specimens—three from Iquique (Tarapacá) and one from Rancagua (O'Higgins)—all obtained in September, in the collection of the Museo Nacional at Santiago. In the Vienna Museum, there are two examples brought home by the "Novara" Expedition.

282. *Capella stricklandii* (Gray)

Scolopax stricklandii Gray,¹ Zool. Voy. Erebus and Terror, 1, Birds, pl. 23, "1846"—no locality given [=Hermit Island, Cape Horn, fide Sharpe, l. c. p. 37, 1875].

Gallinago stricklandii Des Murs (2), p. 527—Straits of Magellan and Tierra del Fuego; Philippi (12), p. 277—Straits of Magellan, Chiloé, Valdivia.

Scolopax spectabilis Hartlaub, Naumannia, 1853, p. 216—Hualves, Valdivia.

Gallinago paludosa (not of Gmelin) Sclater (2), 1867, pp. 332, 339—Chile.

Gallinazo (sic) *stricklandii* E. Reed (4), p. 210—rare in the central provinces.

Range in Chile.—From the Straits of Magellan north to Valdivia; (?) occasionally in the central provinces.

Material collected.—Guaitecas Islands: Melinka, Ascension Island, ♀ ad., Jan. 31, 1923.

Strickland's Snipe principally inhabits the southern extremity of South America from the Straits of Magellan to Tierra del Fuego and Cape Horn and the Falkland Islands. Thence its range extends through southern Chile to Chiloé and Valdivia, though it has yet to be ascertained whether it breeds there or merely visits these parts on migrations. E. Reed states that it is, though rarely, even met with in the central provinces, and Seebohm² mentions that Berkeley James picked up some specimens in the market at Valparaíso.

The only specimen in the Museum collection was found dead on Ascension, one of the Guaitecas Islands.³

Strickland's Snipe has good specific characters, but I do not see how it can be separated generically from *Capella*.

283. *Capella paraguaiæ magellanica* (King)

Scolopax magellanicus King, Zool. Journ., 4, p. 93, 1828—Straits of Magellan.

Scolopax frenata chilensis Seebohm, Geogr. Distr. Charadr., p. 496, 1887—Chile.

Scolopax (Telmatis) paraguaiæ (not of Vieillot) Darwin, p. 131—Valparaíso.

¹*Gallinago stricklandii* Gray (List Spec. Bds. Brit. Mus., 3, p. 112, 1844)—generally quoted as original reference—is a nomen nudum. No description was ever published in the text of the ornithological portion of the Zoology of the Erebus and Terror, but the plate is sufficient to identify the species. Although no information is available respecting its exact date, plate 23 appears to have been issued some time before 1847, as it is cited by Des Murs in Gay's "Historia física y política de Chile," published in that year.

²Geogr. Distr. Charadr., p. 488.

³Lane (p. 310) observed what he believed to be this species at Huasco, Cordillera of Tarapacá, but did not procure any specimens. The snipe seen by him is more likely to have been *C. jamesoni* (Bonaparte)—known to range all over the Andes from Colombia to Bolivia—which may ultimately turn out to be a northern race of *C. stricklandii*.

Scolopax paraguaiæ Fraser (1), p. 118—in the marshes [of Chile] in winter; Yarrell, p. 54—Chile (egg descr.); Cassin, p. 194—Chile.

Scolopax frenata (not of Lichtenstein) Tschudi, p. 35—Valparaíso.

Gallinago paraguaiæ (sic) Boeck, p. 510—Valdivia.

Gallinago paraguaiæ Germain, p. 313—Santiago (breeding habits).

Gallinago paraguaiæ (sic) Des Murs (2), p. 426—Chile; Lataste (1), p. CXV—Bureo (Chillan), Ñuble; Waugh and Lataste (1), p. LXXXVIII—Peñaflor, Santiago; idem (5), p. LXIII—Junquillos (San Carlos), Ñuble; Lane, p. 309—part, Rio Bueno and Rio Pilmaiquen (Valdivia), Arauco, Concepción; Housse (1), p. 52—Isla La Mocha, Arauco; idem (2), p. 150—San Bernardo, Santiago; Jaffuel and Pirion, p. 113—Marga-Marga, Valparaíso; Bullock (4), p. 203—Angol, Malleco.

Gallinago frenata Pelzeln (2), p. 132—Chile.

Gallinago paraguaiæ (ayæ) Schlegel, Mus. Pays-Bas, 5, No. 27 (Scolopaces), p. 11, 1864—Arique (Valdivia); Sclater (2), 1867, pp. 332, 339—Chile; Philippi (12), p. 277—Chile; E. Reed (2), p. 567—Cauquenes, Colchagua; Barros (4), p. 44—Ñilhue, Curicó.

Gallinago (sic) *paraguaiæ* E. Reed (4), p. 210—Chile.

Gallinago paraguayæ chilensis Schalow (2), p. 661—La Serena, Coquimbo.

Capella paraguaiæ Pässler (3), p. 445—Coronel (habits).

Capella paraguaiæ paraguaiæ Meinertzhagen, Ibis, 1926, p. 506—part, Chile in general (except Sacaya).

Range in Chile.—From Atacama (Copiapó) to the Straits of Magellan.

Material collected.—Atacama: Ramadilla, Copiapó Valley, ♂ ad., Aug. 27.—Malleco: Curacautin, ♀ ad., Jan. 8.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ ad., ♀ ad., Feb. 18, 20.—Chiloé Island: Quellon, three ♂♂ ad., two ♀♀ ad., Dec. 31—Jan. 5; Cucao, ♂ ad., two ♀♀ ad., one downy young, Dec. 24.—Guaitecas Islands: Melinka, Ascension Island, ♂ ad., Jan. 30.—Llanquihue: Casa de Richards, Rio Ñirehuau (alt. 2,000 feet), two ♂♂ ad., two ♀♀ ad., Feb. 24–27.

The series of adults differs from typical *C. p. paraguaiæ*¹ in less blackish dorsal surface caused by the greater amount of buff markings; more deeply buff foreneck and chest with less prominent blackish spotting; deeper rufous tail; and more tapering outermost rectrix. In opposition to Deichler,² I am unable to discover any constant difference between specimens from the Straits of Magellan (*magellanica*)

¹In another connection (Field Mus. Nat. Hist., Zool. Ser., 12, p. 496, 1929) we have pointed out that the description of *Scolopax paraguaiæ* Vieillot refers to the breeding form of Paraguay, which, as shown by a series from Villarrica in the Conover Collection, is identical with the Brazilian bird (*S. braziliensis* Swainson).

²Journ. Ornith., 45, p. 153, 1897.

and those from Chile (*chilensis*). The proportion of the shortest secondaries used as criterion for discriminating two races proves to be extremely variable in our series of breeding birds from Chiloé Island, and no reliance can be placed on this character.

C. p. magellanica is widely distributed in suitable localities throughout southern Chile. W. H. Osgood and H. B. Conover found it breeding in December and January on Chiloé Island, where a downy young was taken on December 24. Ambrose Lane records it as a breeding species for Valdivia (Rio Bueno and Rio Pilmaiquen), and R. Pässler states that around Coronel (Arauco) it nests in small numbers on marshy meadows in the second half of October. In the vicinity of Santiago, according to F. Germain, it breeds from July to September, laying two eggs in a rude nest composed of straw and dried grass. The only specimen from northern Chile—an adult male taken in the Copiapó Valley on August 27—matches in every detail, coloration as well as size (wing 130; bill 68), the southern birds, and does not show any approach to the Antofagasta race. The snipes were indulging in mating flight and apparently breeding at the time (C. C. Sanborn).

Outside of Chile, this snipe breeds on the Falkland Islands, in Tierra del Fuego, and southern Patagonia, migrating as far north as Buenos Aires and Uruguay in winter.

284. *Capella paraguaiae innotata* subsp. nov.

Gallinago paraguaiae (not *Scolopax paraguaiae* Vieillot) Philippi, Reise Wüste Atacama, p. 164—Tilopozo, Salar de Atacama, Antofagasta; idem, Ornith., 4, p. 160—Tilopozo.

Type from Rio Loa, Antofagasta, Chile, in Field Museum of Natural History. No. 62,342. Adult male. Collected on Sept. 13, 1923, by C. C. Sanborn (Orig. No. 620).

Similar to *C. p. andina* in proportions, but immediately recognizable by nearly plain white under wing coverts and by having all of the primaries (not only the two outermost) exteriorly and apically edged with hoary white.

Measurements of two adult females.—Wing 118, 118; tail 50, 52; bill 53, 58 mm.

Range.—Only known from the type locality.

Two females taken by Mr. Sanborn on September 12 and 14, 1923, at Rio Loa, Antofagasta, in northern Chile, differ so conspicuously from all of the numerous specimens of both *C. p. magellanica* and *C. p. andina* that I have no alternative but to separate them

subspecially. The under wing coverts, which in both forms are strongly barred with black and white, show but traces of dark gray wavy lines towards the edge of the wing, the rest being uniform white. All of the primaries have a distinct, though narrow, hoary white edge along the outer web and a broader margin of the same color on the tip. In the markings of the primaries the Antofagasta birds are approached only by one from Tungasuca, Cuzco, and another from the Huánuco Mountains, while the other examples examined by me have merely the two outermost primaries exteriorly edged with whitish. In dimensions, the new form agrees exactly with *C. p. andina*, from Tarapacá and Peru.

C. p. innotata will doubtless be found to occur in the adjacent section of Argentina, though in view of the distribution of the allied races its range cannot be very extensive.

285. *Capella paraguayae andina* (Taczanowski)

Gallinago andina Taczanowski, P. Z. S. Lond., 1874, p. 561—Lake Junín, Peru.

Gallinago paraguayae (not of Vieillot) Sclater (6), 1891, p. 137—Sacaya, Tarapacá; Lane, p. 309—part, Sacaya.

Gallinago frenata (not of Lichtenstein) Sharpe, Cat. B. Brit. Mus., 24, p. 646, 1896—part, spec. a, Sacaya, Tarapacá.

Capella paraguayae paraguayae Meinertzhagen, Ibis, 1926, p. 506—part, Sacaya.

Range in Chile.—Puna Zone of Tarapacá.

Material examined.—Tarapacá: Sacaya, ♂ imm., ♀ ad., March 16, April 5, 1890. A. A. Lane (British Museum).

Birds from Sacaya, Tarapacá,¹ which were referred to "*G. frenata*" and *C. p. paraguayae* respectively by Sharpe and Mrs. Meinertzhagen, prove to belong to *C. p. andina*. The specimens collected by Lane agree in every particular with a Peruvian series. The under wing coverts are just as heavily barred with black, and only the two outermost primaries have a hoary white margin along the outer web.

C. p. andina is well distinguished by its decidedly shorter wings and shorter as well as slenderer bill, there being a distinct gap between its measurements and those of *C. p. magellanica*. Mrs. Meinertzhagen's claim that "small specimens of *C. p. paraguayae* [viz. *magellanica*] overlap with those of large *C. p. andina*" is due to her referring

¹Under *G. paraguayae* Sharpe (Cat. B. Brit. Mus., 24, pp. 650, 652) lists nine more specimens from "Tarapacá (A. A. Lane)." This is a mistake, since they are all from southern Chile, six being from Arauco, the others from Rio Bueno and Corral, Valdivia. All are referable to *C. p. magellanica*.

the Tarapacá birds to the former, while they unquestionably pertain to the small northern race.

C. p. andina is restricted to the Puna Zone of Peru, extreme northern Chile, and Bolivia. From the last-named country H. B. Conover has a single female collected by E. Budin at the Laguna Taxara (alt. 4,000 meters), Dept. Tarija, which I am unable to distinguish from Peruvian skins.

| MEASUREMENTS | | |
|--|----------------------|------------------------|
| <i>C. p. andina</i> | Wing | Bill |
| Adult males | | |
| One from Cajamarca (10,000 feet), Peru | 115 | 56 |
| One from Junín, Peru | 117 | 53 |
| Adult females | | |
| One from near Huamachuco (11,500 feet), Peru | 120 | 61 |
| Two from Huánuco Mts. (12,200 feet), Peru | 120, 120 | 61, 62 |
| One from Junín, Peru | 121 | 55 |
| One from Maraymloc, Peru | 116 | 53 |
| One from Tungasuca, Cuzco, Peru | 120 | 57 |
| One from Sacaya, Tarapacá, Chile | 120 | 57 |
| One from Laguna Taxara, Tarija, Bolivia | 121 | 55 |
| Immature males | | |
| One from Sacaya, Tarapacá, Chile | 115 | 48 |
| <i>C. p. magellanica</i> | | |
| Fifty specimens from Chile and Argentina | 128-138, once 143 | 65-75, rarely 78-80 |

286. *Nycticryphes*¹ *semi-collaris* (Vieillot)

Totanus semi-collaris Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 6, p. 402, 1816—based on Azara, No. 405, Paraguay.

Rhynchea (aca) semicollaris Fraser (1), p. 118—marshes [of Chile]; Des Murs (2), p. 429—central provinces; Peale, p. 226—Chile; Bibra, p. 131—common on the lakes near Santiago; Cassin, p. 194—vicinity of Santiago; Germain, p. 313—Santiago (breeding habits); Schlegel, Mus. Pays-Bas, 5, No. 27, p. 18, 1864—Santiago; Sclater (2), 1867, p. 339—Chile; Philippi (12), p. 277—central provinces to Straits of Magellan; E. Reed (2), p. 567—Laguna of Cauquenes, Colchagua; Sharpe, p. 16—Coquimbo; Salvin (2), p. 429—Coquimbo; idem, Cat. Strickl. Coll., p. 608, 1882—Valparaíso; E. Reed (4), p. 210—Chile; Waugh and Lataste (3), p. LX—Peñaflor, Santiago; Lane, p. 310—Arauco (habits); Jaffuel and Pirion, p. 113—Marga-Marga, Valparaíso.

Rostratula semicollaris Sharpe, Cat. B. Brit. Mus., 24, p. 690, 1896—Santiago, Coquimbo, Arauco.

Range in Chile.—Central provinces, from Coquimbo to Arauco.

The Painted Snipe is reported to be fairly common around the lagoons of the central parts of Chile, particularly in the vicinity of

¹*Nycticryphes* Wetmore and Peters, Proc. Biol. Soc. Wash., 36, p. 143, 1923—type *Totanus semi-collaris* Vieillot.

Santiago, where it has been observed or secured by various collectors. According to Germain, it lays in September or October two or three eggs in marshes and inundated fields, depositing them on the mud or wet grass. Coppinger and Markham obtained specimens near Coquimbo, and Ambrose Lane at Arauco, where he found the snipes in pairs and flushed them from the watery sedge near the seashore. The two localities mark the northern and southern limits of its distribution in Chile as recorded in literature.

The Painted Snipe is, besides, found in northern Argentina, Paraguay, and Uruguay.¹

287. *Phegornis mitchellii* (Fraser)

Leptopus (Leptodactylus) mitchellii Fraser, P. Z. S. Lond., 12, "1844," p. 157, Feb., 1845—Chile, probably Andes of Colchagua; idem, Zool. Typ., pl. 63, circa 1848—"in swampy places" of the Andes of central Chile.

Leptoscelis mitchellii Des Murs (2), p. 404—Chile (ex Fraser); Philippi, Reise Wüste Atacama, p. 163—Rio Frio, Antofagasta, and Cordillera of Santiago; Pelzeln (2), p. 117—Cordillera of Santiago; Philippi (12), p. 272—Cordilleras of central provinces north to the desert of Atacama; idem, Ornith., 4, p. 159—Rio Frio.

Leptosceles mitchelli Sclater (2), 1867, pp. 331, 339—Chile.

Phegornis mitchelli Sclater (4), 1886, p. 403—Sitani, Tarapacá; E. Reed (4), p. 210—Chile; C. Reed, Av. Prov. Mendoza, p. 12, 1916—"Concepción," Chile; Barros (5), p. 172—Cordillera of Aconcagua; idem (10), p. 357—Cordillera of Aconcagua.

Range in Chile.—Puna Zone of the central and northern provinces, from Colchagua to Tarapacá.

Material collected.—Antofagasta (Bolivia boundary): Silala (alt. 14,160 feet), ♂ ad., ♀ ad., ♂ juv., April 26.—Coquimbo: Baños del Toro (alt. 10,600 feet), two ♂♂ ad., one ♀ ad., Nov. 14, 17.

The young bird differs from Sharpe's description of the juvenile plumage by having no ashy white on the hind neck and by lacking the white post-ocular streak. The whole of the dorsal plumage is barred with dull rufous, paler on the crown.

P. mitchellii inhabits the upper Temperate and Puna Zones at elevations of 10,000 feet and upwards, where it breeds along the banks of streams. It was discovered by Thomas Bridges, probably in the province of Colchagua. Philippi records it from the Cordillera of Santiago, and a specimen from this section, secured by Germain

¹The records from "Peru" (Tschudi) and "Straits of Magellan" (King) are obviously erroneous, and the locality "São Paulo" (type of *R. hilearea*) is likewise open to doubt.

in January, 1859, is now in the Vienna Museum. In Aconcagua, R. Barros tells us, it arrives in October and, after staying for a short time at lower altitudes, repairs to its breeding grounds in the elevated Cordilleras (10,000 feet and more). About the end of April and in May it migrates northwards. Philippi met with it at Rio Frio, Antofagasta, in the Desert of Atacama, and Carlos Rahmer obtained a single specimen at Sitani, Tarapacá. C. S. Reed claims to have shot one at Concepción, Chile.

Outside of Chile, this interesting bird has been found at Yaucha, Dept. San Carlos, Mendoza,¹ and also on the shores of Lake Junín and in Puno, Peru; whether it nests there, has yet to be ascertained.

288. *Pisobia fuscicollis* (Vieillot)

Tringa fuscicollis Vieillot, Nouv. Dict. Hist. Nat., nouv. éd., 34, p. 461, 1819—based on Azara, No. 404, Paraguay; E. Reed (4), p. 210—Chile.

Tringa bonapartii Schlegel, Mus. Pays-Bas, 5, No. 27 (Scolopaces), p. 42, 1844—Santiago; Sclater (2), 1867, pp. 382, 389—Chile.

Tringa pectoralis Philippi (12), p. 276—Atacama and Santiago; idem, Ornith., 4, p. 160—Antofagasta.

Range in Chile.—From Antofagasta to the Straits of Magellan. Winter visitor.

Bonaparte's Sandpiper is said to be a rather uncommon winter migrant in Chile. Schlegel records two females from Santiago (September, 1853) received through Philippi, and Edwyn Reed states that the bird is of rather rare occurrence. We have not seen any Chilean material, and even the British Museum has no specimens from that country.

289. *Pisobia bairdii* (Coues)

Actodromas bairdii Coues, Proc. Acad. Nat. Sci. Phila., 13, p. 194, 1861—Fort Resolution [Great Slave Lake, Canada].

Schaeniclus schinzii (not of Brehm) Gray, List Spec. Bds. Brit. Mus., 3, p. 105, 1844—Chile (ex Bridges; spec. in British Museum examined).

(?) *Tringa schinzii* Des Murs (2), p. 425—Chile; (?) Philippi (12), p. 276—Santiago; (?) Waugh and Lataste (1), p. LXXXVIII—Peñaflor, Santiago.

Tringa bairdii Sclater (2), 1867, pp. 382, 389—Santiago; idem (4), 1886, p. 404—Huasco, Sacaya, and Cueva Negra, Tarapacá; idem (6), 1891, p. 137—Tarapacá; E. Reed (4), p. 210—Chile; Lane, p. 311—Cancosa, Sacaya, and Lake Huasco, Tarapacá.

Tringa maculata (not of Vieillot) Sclater (4), 1886, p. 404—Huasco, Tarapacá (spec. examined).

¹Arribáizaga, Anal. Mus. Nac. Hist. Nat. Buenos Aires, (3), 1, p. 154, 1902.

Heteropygia bairdi Sharpe, Cat. B. Brit. Mus., 24, p. 570, 1896—Tarapacá (Cancosa, Sacaya, Huasco), Santiago, and Talcaguano.

Pisobia bairdi Barros (4), p. 173—Vega Redonda (Valle de los Piuquenes), Aconcagua.

Range in Chile.—From Tarapacá to Valdivia. Winter visitor.

Material collected.—Antofagasta: Ojo de San Pedro (alt. 12,400 feet), ♀ ad., May 2, 1924.

Additional specimens.—Tarapacá; Sacaya, ♂ ad., no date. C. Rahmer; ♀ ad., March 10, 1890. A. A. Lane; Cancosa, ♀ ad., Jan. 28, 1890. A. A. Lane; Huasco, ♀ ad., Feb. 15, 1886. C. Rahmer.—Santiago: Santiago, one ♀ ad., Feb. 1872. E. C. Reed: two ♀ ♀, no date. Friedrich Leybold.—Valdivia: Nige, Tolten, ♀, Feb. 17, 1909. D. S. Bullock.—“Chile” (unspecified): one adult. T. Bridges (all in the British Museum).

Baird's Sandpiper is a common winter visitant to Chile. Specimens have been secured by Rahmer and Lane in the Cordillera of Tarapacá, while R. Barros shot one in Aconcagua (alt. 7,000 feet) in October, 1920. The British Museum has examples from Santiago (February), Talcaguano (September), and Tolten, Valdivia (February). The bird collected by Mr. Sanborn is in freshly molted plumage.

290. *Pisobia melanotos* (Vieillot)

Tringa melanotos Vieillot,¹ Nouv. Dict. Hist. Nat., nouv. éd., 34, p. 462, 1819—based on Azara, No. 401, Paraguay.

Pelidna pectoralis Cassin, p. 195—Chile.

Tringa maculata Sclater (6), 1891, p. 137—Tarapacá (spec. examined); E. Reed (4), p. 210—Chile; Lane, p. 310—Rio Pilmaiquen, Valdivia (spec. in British Museum examined).

Heteropygia maculata Schadow (2), p. 660—Cavancha (Iquique), Tarapacá.

Range in Chile.—From Tarapacá to Valdivia. Winter visitor.

Material examined.—Tarapacá: Sacaya, ♂ ad., ♀ ad., March 13, April 4, 1890. A. A. Lane.—Valdivia: Rio Pilmaiquen, ♂ ad., Feb. 22, 1891. A. A. Lane (all in the British Museum).

The Pectoral Sandpiper is stated to be a rather uncommon winter visitant from the north. Specimens have been recorded from Tarapacá (Cavancha and Sacaya) and Valdivia (Rio Pilmaiquen).

¹As pointed out by Wetmore (Bull. U. S. Nat. Mus., 133, p. 153, 1926), this name has page-priority over *Tringa maculata* Vieillot, the generally accepted specific term of the Pectoral Sandpiper. Azara's description is unmistakable, and before Wetmore's paper was published, we had independently identified it as pertaining to *Pisobia maculata*.

291. *Crocethia alba* (Pallas)

Trynga (alba) Pallas in Vroeg, Cat. Rais. d'Ois., Adumbr., p. 7, 1764—coast of North Sea, Holland.

Calidris arenaria Fraser (2), p. 157—Chile; Cassin, p. 194—Chile; Pelzeln (2), p. 131—Chile; Sclater (2), 1867, p. 339—Chile; Sharpe, p. 16—Talcahuano; Salvin (2), p. 429—Coquimbo Bay; Schalow (2), p. 659—Cavanha (Iquique), Tarapacá; E. Reed (4), p. 210—Chile.

Tringa arenaria Des Murs (2), p. 425—Chile; Philippi (12), p. 276—common along the seacoast.

Calidris grisea Philippi (12), p. 276—Chile; Gigoux, p. 87—Caldera, Atacama.

Crocethia alba Wetmore (3), p. 153—Concon, Valparaiso.

Range in Chile.—Seacoast from Tarapacá to Chiloé Island. Winter visitor.

Material collected.—Atacama: Caldera, three ♂♂, one ♀, April 11–18, 1924. E. Gigoux.—Aconcagua: Papudo, one ♂ ad., Dec. 8, 1923.

The Sanderling is a regular winter visitant to Chile. Mr. Conover supplies the following note: "At Cucao, Chiloé, twenty-five individuals were seen on Christmas Day scattered over a wet spot on the beach, and one was shot for identification."

292. *Totanus melanoleucus* (Gmelin)

Scolopax melanoleuca Gmelin, Syst. Nat., 1, (2), p. 659, 1789—based on "Stone Snipe" Pennant, Arct. Zool., 2, p. 468, 1785, Chateau Bay, Labrador.

Totanus stagnalis (errore) Des Murs (2), p. 122—Chile (in part); Frauenfeld, p. 639—Lake Aculeo, Santiago; (?) Housse (2), p. 150—San Bernardo, Santiago.

Totanus chilensis Philippi, Anal. Univ. Chile, 14, p. 182, 1857—Chile (no locality specified); idem, Arch. Naturg., 23, (1), p. 264, 1857—coast of province of Valparaiso; idem, Reise Wüste Atacama, p. 163—Paposo, Antofagasta (?); idem, Ornith., 4, p. 160—Paposo; idem (24), p. 63, pl. 29, fig. 1—Chile.

Totanus melanoleucus Pelzeln (2), p. 131—Chile; Philippi (12), p. 275—Chile; Philippi, Ornith., 4, p. 160—Antofagasta; E. Reed (4), p. 210—common in winter; Waugh and Lataste (3), p. LX—Peñaflor, Santiago; Lane, p. 311—Rio Pilmaiquen, Valdivia; Philippi (24), p. 63, pl. 29, fig. 2—Chile; Wetmore (3), p. 150—Concon, Valparaiso; Bullock (4), p. 203—Angol, Malleco.

Gambetta melanoleuca Sclater (2), 1867, pp. 332, 339—Chile (crit.); E. Reed (2), p. 567—Cauquenes, Colchagua; Sharpe, p. 16—Talcahuano; Sclater (6), 1891, p. 404—Sitani, Tarapacá.

Totanus stagnalis (sic) (*T. melanoleucus*?) Waugh and Lataste (1), pp. LXXXVIII—Peñaflor, Santiago.

Range in Chile.—From Tarapacá to the Straits of Magellan. Winter visitor.

Material collected.—Chiloé Island: Rio Inio, ♀ ad., Jan. 8; Quellon, ♀ ad., Dec. 30.

The Greater Yellow-legs is a common winter visitant to Chile, and has been recorded from various parts of the country. Philippi, when receiving the first specimens from the Valparaíso coast, erroneously described them as pertaining to a new species under the name of *T. chilensis*. There is no question whatever that the individuals wintering in Chile are merely migrants from the north.

293. *Totanus flavipes* (Gmelin)

Scolopax flavipes Gmelin, Syst. Nat., 1, (2), p. 659, 1789—based on "Yellow-shanks" Pennant, Arct. Zool., 2, p. 468, 1785, New York.

Totanus stagnatilis (errore) Des Murs (2), p. 122—Chile (in part); Philippi, Reise Wüste Atacama, p. 163—Chañaral de las Animas, Atacama.

Totanus flavipes Pelzeln (2), p. 131—Chile; Philippi (12), p. 275—Chile; Sclater (4), 1886, p. 137—Tarapacá; Waugh and Lataste (3), p. LX—Peñaflor, Santiago; E. Reed (4), p. 210—common in winter; Lane, p. 311—Huasco, Sacaya, and "Caracosa," Tarapacá; Philippi (24), p. 63, pl. 30—Chile; Jaffuel and Pirion, p. 113—Marga-Marga, Valparaíso; Bullock (4), p. 203—Angol, Malleco.

Gambetta flavipes Sclater (2), 1867, pp. 332, 339—Santiago; E. Reed (2), p. 568—Cauquenes, Colchagua; Sclater (6), 1891, p. 404—Sacaya, Tarapacá.

Totanus stagnalis (sic) (*T. flavipes*?) Waugh and Lataste (1), p. LXXXVIII—Peñaflor, Santiago.

Range in Chile.—From Tarapacá to the Straits of Magellan. Winter visitor.

Material collected.—Concepción: near the coast, ♂ ad., ♀ ad., April 7, 14.

The Yellow-legs is likewise a common winter visitant from the north, and is stated to be even more abundant than its larger relative.

294. *Ereunetes pusillus* (Linnaeus)

Tringa pusilla Linnaeus, Syst. Nat., 12th ed., 1, p. 252, 1766—based on Brisson, Orn., 5, p. 222, pl. 25, fig. 2, Santo Domingo.

Eumenetes (sic) *pusillus* Housse (1), p. 51—Isla La Mocha, Arauco.

Range in Chile.—Once recorded from Isla La Mocha, Arauco. Winter visitor.

Whether this species has really any claim to be included in the fauna of Chile requires confirmation. Housse states that it visits

the shores of the Isla La Mocha, but the note may refer to some other species, as it seems to be based on field-observations only.

No other collector ever met with the Semipalmated Sandpiper in Chile, although a species of the genus (either *E. pusillus* or *E. mauri*) has been taken at Paracas Bay, Peru.

295. *Bartramia longicauda* (Bechstein)

Tringa longicauda Bechstein, Kurze Übers. Vögel, 2, p. 453, pl. 42, 1812—"Nordamerika."

Actiturus bartramius Philippi (24), p. 65—Cordillera of Santiago.

Range in Chile.—Once recorded from Santiago. Winter visitant.

According to Philippi, two specimens of the Upland Plover caught in 1888 in the Cordillera of Santiago are in the Santiago Museum. It is also said to have occurred near San Fernando, Santiago.

296. *Limosa haemastica* (Linnaeus)

Scolopax haemastica Linnaeus, Syst. Nat., 10th ed., 1, p. 147, 1758—based on "Red-breasted Godwit" Edwards, Nat. Hist. Birds, 3, pl. 138, Hudson Bay.

Limosa hudsonica (us) Darwin, p. 129—Chiloé Island; Fraser (1), p. 118—mouths of rivers near the sea [of Chile]; Des Murs (2), p. 420—coast of Valparaíso; Pelzeln (2), pp. 128, 163—Chiloé Island; Sclater (2), 1867, pp. 332, 339—Chile; Philippi (12), p. 275—coast of Chile, particularly abundant at Vichuquen, Curicó; Sclater and Salvin, Ibis, 1870, p. 500—Ancud, Chiloé; Housse (1), p. 52—Isla La Mocha, Arauco; E. Reed (4), p. 210—coast of Chile; Schalow (2), p. 659—Calbuco, Llanquihue.

Range in Chile.—All along the coast south to the Straits of Magellan. Winter visitor.

The Hudsonian Godwit is a regular winter visitant to Chile. It is stated to be particularly abundant on the tidal mud-banks of Chiloé Island and around Vichuquen on the coast of Curicó, and has also been noted from several other localities (Valparaíso; Isla La Mocha; Calbuco, near Puerto Montt). Schalow's assumption that it "doubtless" breeds in South America is wholly unfounded, its breeding grounds being the tundra of Arctic North America.

297. *Numenius hudsonicus* Latham

Numenius hudsonicus Latham, Ind. Orn., 2, p. 712, 1790—based on "Eskimaux Curlew" Pennant, Arct. Zool., 2, No. 364, pl. 19, Hudson Bay; Darwin, p. 129—Chiloé Island; Fraser (1), p. 117—sandy bays along the shores of Chile; Des Murs (2), p. 419—Chile; Boeck, p. 510—"Arend" [= Ancud], Chiloé, and Calbuco and Bay von "Reloncaoi" [= Reloncaví], Llanquihue;

Cassin, p. 194—Chile; Sclater (2), 1867, pp. 333, 339—Chile; Philippi (12), p. 275—coast of Chile; Sharpe, p. 16—Talcaguano; E. Reed (4), p. 210—Chiloé, less common in the north of Chile; Lane, p. 312—Viña del Mar, near Valparaiso; Schalow (2), p. 659—Chile; Gigoux, p. 87—Caldera, Atacama.

Numenius hudsonius Pelzeln (2), pp. 125, 163—Chiloé Island.

Range in Chile.—From Atacama to Llanquihue. Winter visitor.

Material collected.—Atacama: Caldera, ♀ ad., Dec. 2, 1923. E. Gigoux.—Chiloé Island: Quellon, ♂ ad., two ♀ ♀, Dec. 29–30, Feb. 1; Rio Inio, one ♀, one (unsexed) ad., Jan. 8–11.

The Hudsonian Curlew is a regular winter visitant to Chile. It is reported as particularly abundant along the mud-banks of Chiloé Island, where Osgood and Conover found it in large numbers. Farther north it is said to be less common, though specimens have been secured at Caldera, Viña del Mar (Valparaiso), and Talcaguano. Bullock (Auk, 45, 1928, p. 501) met with large migrating flocks at Penco (Concepción) in the first half of March; by the twenty-first of the month the birds had departed for the north.

298. *Numenius borealis* (Forster)

Scolopax borealis Forster, Philos. Trans., 62, pp. 411, 431, 1772—Albany Fort, Keewatin, and Hudson Bay.

Numenius microrhynchus Philippi and Landbeck, Arch. Naturg., 32, (1), p. 129, 1866—Chiloé Island and Arica (Tacna); Philippi (12), p. 275—Chiloé and "Peru."

Numenius borealis Sclater (2), 1867, pp. 333, 339—Chile (crit.); E. Reed (4), p. 211—Chile; Philippi (24), p. 62—Chile (crit.).

Range in Chile.—From Tacna to Chiloé Island. Winter visitor.

The Eskimo Curlew formerly was a winter visitor to Chile. There are two specimens in the Museo Nacional at Santiago, one from Chiloé Island, October, 1858, the other taken by Frobeen near Arica, Tacna, which formed the basis of *N. microrhynchus*. They have been examined by both Mr. Conover and Mr. Sanborn.

299. *Thinocorus rumicivorus rumicivorus* Eschscholtz

Thinocorus rumicivorus Eschscholtz, Zool. Atlas, Heft 1, p. 2, pl. 2, 1829—near the seacoast in the Bay of Concepción; Cassin, p. 191—"the higher mountain valleys" [of Chile], errore; Sclater (2), 1867, pp. 331, 339—Chile; E. Reed (2), p. 567—plains of Cauquenes, Colchagua; Salvin (2), p. 429—Coquimbo; Lane, p. 304—part, Huasco, Atacama, and Laraquete, Arauco (habits); E. Reed (4), p. 210—central provinces; Albert (1), 106, p. 589—Chile (monog.); Housse (2), p. 149—San Bernardo, Santiago; Gigoux, p. 84—Caldera, Atacama (winter visitor).

Tinochorus rumicivorus Darwin, p. 117—from near Concepción north to Copiapó; Des Murs (2), p. 387—Concepción; Philippi (12), p. 269—Santiago to Valdivia.

Tinochorus eschscholtzii Fraser (1), p. 116—plains of Chile.

Thinocorus swainsoni Pelzeln (2), p. 113—Chile.

Thinocorus rumicivorus rumicivorus Wetmore (3), p. 172—mouth of the Rio Aconcagua, near Concon, Valparaíso.

Range in Chile.—From Atacama (Copiapó) to Llanquihue.

Material collected.—Llanquihue: Casa de Richards, Rio Ñirehuau (alt. 2,000 feet), six ♂♂ ad., one ♂ imm., four ♀♀ ad., three young (in down), Feb. 17–March 9.

Additional specimens.—Coquimbo: Coquimbo, ♀ ad., June, 1880. Coppinger (British Museum).—Santiago: Santiago, ♂ ad., two ♀♀ ad. F. Leybold (British Museum).

The Coquimbo bird is identical with others from Santiago and farther south, being much larger (wing 115) and darker above than one from Tarapacá. The wing measurements of Chilean birds, irrespective of sex, run from 110 to 124 mm.

This little seed-snipe is reported to be locally common on sandy beaches and sterile plains. The most northerly specimen we have seen is that from Coquimbo, but Lane was told that this bird is plentiful at Huasco, Atacama, and Darwin found it even at Copiapó. According to Gigoux, it is merely a winter visitor at Caldera. An account of its habits and behavior is given by Lane and Wetmore.

Several races of more or less doubtful standing have been described from Argentina, partly based on migrants, whose breeding places are unknown. One of them, *T. r. swainsonii* Lesson,¹ is erroneously stated by Gay (p. 388) to occur, though rarely, in the central provinces of Chile.

300. *Thinocorus rumicivorus cuneicauda* (Peale)

Glareola cuneicauda Peale, U. S. Expl. Exp., 8, p. 244, 1848—San Lorenzo Island, near Callao, Peru (type in U. S. National Museum examined).

Thinocorus rumicivorus (not of Eschscholtz) Sclater (6), 1891, p. 137—La Noria, Tarapacá; Lane, p. 304—part, Tarapacá.

Range in Chile.—Extreme northern section, in province of Tarapacá.

Material examined.—Tarapacá: La Noria, ♀ ad., June 2, 1890. A. A. Lane (British Museum).

¹*Tinochorus swainsonii* Lesson, Bull. Sci. Nat. et Géol. (Férussac), 25, No. 197, p. 344, June, 1831—Buenos Aires.

The Tarapacá bird agrees in small size¹ and pale upper parts with two specimens, including the type of *T. peruvianus* Lowe,² from the coast of Arequipa (Islay and Tambo Valley). As pointed out by Wetmore,³ this pale form was first described by Peale under the name of *G. cuneicauda*. It replaces the typical race in the extreme north of Chile, whence it stretches northwards along the Peruvian coast at least to the latitude of Lima.

Lane found it in Tarapacá occasionally from the seashore to within a short distance of Pica.

301. *Thinocorus orbignyianus orbignyianus* (Lesson)

*Tinocorus Orbignyianus*¹ Lesson, Cent. Zool., pp. 137, 139, pll. 48, 49, pub. by March, 1831—"San-Jago" [=Santiago], Chile, coll. Gay (types in Paris Museum); Bridges, p. 95—Andes of Chile, lat. 34°-35°; Fraser (1), p. 115—elevated valleys and mountains of the Andes [of Chile]; Des Murs (2), p. 387—vicinity of Santiago; Philippi (12), p. 269—high Cordilleras of Chile; Porter (1), p. CCXVI—Chañarcillo, Atacama.

*Thinocorus orbignianus*⁴ Bibra, p. 130—near the snow of the Cordillera [of Santiago]; Cassin, p. 191—valley of the Andes [of Chile]; Sclater (2), 1867, pp. 331, 339—Chile; E. Reed (2), p. 567—Valle de los Cipreses, Colchagua; Sclater (4), 1886, p. 403—Sacaya, Tarapacá (egg descr.); idem (6), 1891, p. 137—Sacaya, Lake Huasco, and "Canchosa," Tarapacá; Lane, p. 306—Tarapacá and Santiago (habits); E. Reed (4), p. 210—Colchagua; Albert (1), 106, p. 536—Chile (monog.); Housse (2), p. 149—San Bernardo, Santiago; Bullock (4), p. 193—Angol, Malleco.

Thinocorus orbignyianus Philippi, Reise Wüste Atacama, p. 163—Agua de Varas, Antofagasta.

Thinocorus ingae (not of Tschudi) Pelzeln (2), p. 113—Chile; Sclater (2), 1867, pp. 331, 339—Chile (ex Pelzeln).

Tinocorus orbignyianus Philippi, Ornith., 4, p. 159—Inacaliri and Pastos Largos, Antofagasta.

Thinocorys orbignyianus Barros (5), p. 172—Cordillera of Aconcagua.

Thinocorus orbignyianus orbignyianus Brodtkorb, Auk, 46, p. 500, 1928—Chile (crit.).

Range in Chile.—Puna Zone of northern and central Chile, from Tacna to Colchagua.

Material collected.—Tacna: Chungara (alt. 15,150 feet), ♂ ad., ♂ juv., June 25.—Antofagasta: Rio Loa, ♂ ad., Sept. 13; twenty

¹The La Noria bird has a wing of 104, a female from Tambo measures 105 mm.

²Bull. Brit. Orn. Cl., 41, p. 109, 1921—Islay, Arequipa, Peru.

³Bull. U. S. Nat. Mus., 133, p. 172, 1926.

⁴Variously spelled *d'orbignyianus*, *d'orbignianus*, *orbignyianus*, *orbignianus*, or *orbignyanus*, the last-named being the orthography adopted in the original description.

miles east of San Pedro, two ♂♂ ad., Oct. 2-6.—Coquimbo: Baños del Toro (alt. 10,600 feet), three ♂♂ ad., Nov. 11.

Additional specimens.—Santiago: Cordillera de Las Condes, three ♂♂ ad., two ♀♀, Sept. 8, 1923. C. S. Reed (Museum of Comparative Zoology, Cambridge).

Specimens from Coquimbo and Antofagasta agree well with the series of topotypes in the Cambridge Museum, and the single male from Chungara (Tacna) obviously is not different either. The wing measurement ranges in males from Santiago and Coquimbo from 140 to 150 and in those from Antofagasta from 139 to 157, while the specimen from Tacna has a wing of 147 mm.

Birds from Peru and Bolivia appear to be somewhat smaller, as pointed out by Brodkorb, and may stand as *T. o. ingae* Tschudi.

The large seed-snipe inhabits the Puna Zone of the Cordilleras, near the edge of the snow. In the cold season, it descends to lower altitudes, even to the foothills, but is rarely met with below 3,000 feet, as R. Barros tells us.

In the Andes of Tarapacá A. Lane found it plentiful about Sacaya, especially on grassy slopes near water, and encountered it also at Huasco, Cancosa, and at all the springs giving rise to verdure. It breeds in Tarapacá during January and February. The nest is a mere hollow in the sand with fragments of twigs and grass around, and contains four eggs. According to Lane, these seed-snipes occur as far south as the peaks adjacent to Santiago, extending on both sides of the Andes from 8,000 to 14,000 feet. The most southerly record in Chile proper is the Valle de los Cipreses, Colchagua, where Edwyn Reed reports to have found a nest.

It is also widely distributed in the Argentine Andes from Jujuy south to western Santa Cruz (Lago Argentino), and Schalow (p. 662) records it even from Punta Arenas (February).

302. *Attagis gayi gayi* Lesson

Attagis Gayi (i) Lesson, Cent. Zool., p. 135, pl. 47, pub. by March, 1831¹—“San-Jago” [=Santiago], Chile (type in Paris Museum examined); Darwin, p. 117—Cordillera of Coquimbo and on the Andes behind Copiapó, Atacama; Fraser (2), p. 157—Chile; Bridges, P. Z. S. Lond., 15, p. 29, 1847—Pass of Tapaquilcha, east of Ascotan, Potosi, Bolivia; Des Murs (2), p. 384, pl. 7—Cordilleras of Chile; Bibra, p. 180—Precordillera of Santiago; Cassin, p. 192—Andes of Chile; Sclater (2), 1867, pp. 331, 339—Chile; Philippi (12), p. 269—“Alta Cordillera” of Chile; E. Reed (2), p. 567—

¹Cf. Sherborn, Ind. Anim., 2nd sect., Part 1, p. LXXX, 1922.

Cordillera of Cauquenes, Colchagua; Sclater (6), 1891, p. 137—southwest of Sacaya, Tarapacá; E. Reed (4), p. 210—Cordillera of Chile; Lane, p. 307—near Sacaya; Albert (1), 106, p. 581—Cordilleras of Chile (monog.); Porter (2), p. 179—Valle de San Antonio, Atacama; Barros (5), p. 172—Cordillera of Aconcagua; idem (11), p. 315—Caracoles (alt. 10,000 feet), Prov. Santiago.

Attagis latreillei (not of Lesson),¹ Pelzeln (2), p. 113—Chile (spec. examined).

Range in Chile.—Puna Zone of northern and central Chile, from Tarapacá to Colchagua.

Material collected.—Coquimbo: Baños del Toro (alt. 10,600 feet), ♂ ad., two ♀ ad., Nov. 9–11.

Additional specimens.—Tarapacá: three leagues southwest of Sacaya, ♀ ad., April 6, 1890. A. A. Lane (British Museum).—Santiago: Santiago, adult. C. Gay (type of species; Paris Museum).—"Chile" (unspecified): adult. Zelebor, "Novara" Expedition (Vienna Museum).

Tone and width of the light vermiculations above are subject to considerable individual variation. The coloration of the under parts, too, varies a good deal in intensity. In the three Baños del Toro specimens it ranges from light pinkish cinnamon to deep pinkish cinnamon. The type of *A. gayi fitzgeraldi* Chubb,² which we have examined in the British Museum, is just a slight shade darker on the breast than the most deeply colored of Sanborn's birds, but does not differ in any other respect. The throat is certainly not more buffy than in a number of Chilean specimens nor are the dimensions larger.³ We have no hesitation in uniting this alleged race to typical *gayi*. The single example from Sacaya, Tarapacá (wing 190; tail 85; bill 22), is exactly similar to others from more southern localities, and does not belong to *A. g. simonsi* Chubb,⁴ which seems to be a recognizable form by reason of its much blacker upper parts with the pale vermiculations greatly restricted.

A. g. gayi inhabits the Puna Zone of Chile from Tarapacá south to Colchagua. On the Argentine slope of the Andes its range extends as far south as western Santa Cruz (Lago Buenos Aires). In summer

¹*Attagis latreillei* Lesson (Bull. Sci. Nat. et Géol., 25, No. 197, p. "243" [= 343], June, 1831—"d'une collection expédiée de Buenos-Ayres," coll. Pecquet, Caen; idem, Illust. Zool., livr. 4, pl. 11, Nov. 3, 1832—"Chili") appears to be referable to the Ecuadorian form (*A. chimborazensis* Sclater).

²Bull. Brit. Orn. Cl., 38, p. 40, 1918—Horcones Valley, Prov. Mendoza.

³It measures: wing 190; tail 78; bill 19. Our birds from Baños del Toro give the following figures: wing 190 (♂), 195, 200; tail 75 (♂), 80, 85; bill 19 (♂), 20, 21.

⁴Bull. Brit. Orn. Cl., 38, p. 41, 1918—Crucero, Lake Titicaca, Peru (type in British Museum examined).

it lives near the edge of the snow from 10,000 feet upwards, but in the severe season it repairs to lower altitudes, though it is seldom seen below 5,000 feet.

303. *Rynchops nigra intermedia* Rendahl

Rynchops melanura intermedia Rendahl, Ark. Zool., 12, No. 8, p. 12, 1919—Harbor Head, Rio San Juan del Norte, Nicaragua.

Rhynchops nigra (not of Linnaeus) Lesson, Man. d'Orn., 2, p. 385, 1828—Concepción; Fraser (1), p. 110—coast of Chile; Tschudi, p. 35—Valparaíso Bay; idem, Faun. Peru., Aves, p. 306—Iquique, Arica; Des Murs (2), 8, p. 474—coast of Chile; Kittlitz, Denkwürd., 1, pp. 110, 111—Concepción; Philippi, Reise Wüste Atacama, p. 165—Chañaral, Atacama; Pelzeln (2), p. 151—Chile; Sclater (2), 1867, p. 340—Chile; Philippi (12), p. 290—from Concepción north to Peru; E. Reed (2), p. 568—Rio Cachapoal, Colchagua; Philippi, Ornith., 4, p. 160—Chañaral, Atacama.

Rhynchops melanura Sclater and Salvin, Ibis, 1869, p. 284—Ancud, Chiloé; Cunningham (2), p. 365—Ancud; Saunders, p. 522—Coquimbo Bay; E. Reed (4), p. 211—Chile; James (2), p. 12—Chile; Saunders, Cat. B. Brit. Mus., 25, p. 156, 1896—Viña del Mar (Valparaíso) and Coquimbo.

Range in Chile.—From the Peruvian boundary to the Straits of Magellan.

Material collected.—Aconcagua: Papudo (on the beach), three ♀ ♀ ad., Dec. 23, 1923. J. Wolffsohn.

Compared with skins from Amazonia (Lagunas, lower Huallaga, Peru; Conceição, Rio Branco) assumed to represent *R. n. cinerascens* Spix, the Chilean birds have the rectrices more broadly edged with white and the white tips to the secondaries wider, while the upper parts are less deeply blackish. They seem to agree with Rendahl's description, although in the absence of Central American material the present identification must be regarded as provisional. It is, however, not at all unlikely that the Scissor-bills of southern Central America and of the Pacific coast of South America will be found to be referable to Rendahl's recently proposed race.

The "Rayador," while ranging all over the republic, is said to be nowhere common. It is found along the seashore, in estuaries of rivers, and in lagoons near the coast. There are specific records from Atacama (Chañaral), Coquimbo Bay, Aconcagua (Papudo), Valparaíso (Viña del Mar), Colchagua (Rio Cachapoal), Concepción, and Chiloé (Ancud).

304. *Larosterna inca* (Lesson and Garnot)

Sterna inca Lesson and Garnot, Voy. Coquille, Zool., Atlas, livr. 3, pl. 47, April 18, 1827—Lima, Peru—San Lorenzo Island (cf. Lesson, Voy.

Coquille, Zool., 1, (2), livr. 16, p. 731, May 1, 1830; Fraser (3), p. 1—Chile.

Anous inca Gray, List Spec. Bds. Brit. Mus., 3, p. 181, 1844—Chile; Pelzel (2), p. 156—Chile; Sclater (2), 1867, pp. 337, 340—Chile; Sclater and Salvin, Ibis, 1870, p. 500—Coquimbo; Cunningham, p. 404—Pelican Rock, Coquimbo.

Noddi inca Des Murs (2), p. 436—coast of Chile; Philippi, Reise Wüste Atacama, p. 165—coast of Atacama; idem (12), p. 290—Corral to Peru; idem, Ornith., 4, p. 160—Atacama.

Larosterna inca Blyth, Cat. Bds. Mus. As. Soc., p. 293, 1849—Chile.

Noenia inca E. Reed (4), p. 211—coast of northern Chile.

Naenia inca Saunders, Cat. B. Brit. Mus., 25, p. 132, 1896—Valparaiso.

Range in Chile.—Coast from Coquimbo northwards, accidental at Valparaiso and Corral (Valdivia).

The Inca Tern is said to be fairly common along the coast of northern Chile. Philippi noticed it in numbers in Atacama, and Cunningham observed it on Pelican Rock, off Coquimbo. Its occurrence at Valparaiso and Corral (Valdivia) is probably accidental.

The Inca Tern breeds on the islands along the Peruvian coast as far north as Macabí.

305. *Sterna trudeaui* Audubon

Sterna trudeaui (i) Audubon, Birds Amer., fol. ed., 4, pl. 409, fig. 2, 1838; idem, Orn. Biog., 5, p. 125, 1839—"Great Egg Harbor in New Jersey," locality probably erroneous; Des Murs (2), p. 484—Chile (ex Gray [ex Bridges]); Philippi (12), p. 289—coast of Santiago and Colchagua; Sclater and Salvin, P. Z. S. Lond., 1871, p. 570—Valparaiso; Landbeck (6), p. 515; idem (7), p. 113—Chile (crit.); E. Reed (4), p. 211—Chile.

Thalasseus trudeaui Gray, List Spec. Bds. Brit. Mus., 3, p. 176, 1844—Chile (Bridges).

Sterna Trobeni (sic) Philippi and Landbeck, Anal. Univ. Chile, 19, p. 613, 1861—Arica Bay (=immature).

Sterna frobenii Philippi and Landbeck, Arch. Naturg., 29, (1), p. 125, 1863—Arica Bay.

Sterna frobeni Philippi (12), p. 289—Valparaiso and Arica; idem (24), p. 100, pl. 47, fig. 2—Arica.

Sterna frobenii Landbeck (6), p. 515; idem (7), p. 113—Arica and Corral, Valdivia (crit.).

(?) *Phaethusa chloropoda* (not of Vieillot) Heine and Reichenow, Nomencl. Mus. Hein., p. 355, 1890—Chile.

Range in Chile.—From Arica to Valdivia (Corral).

Very little is known regarding the distribution of Trudeau's Tern in Chile, where it was first collected by T. Bridges. Philippi and Landbeck separated a female shot by Froben in August, 1851,

at Arica as *S. frobenii*, and the first-named naturalist lists specimens of *S. trudeaui* from the coast of Santiago and Colchagua, while F. Leybold forwarded an adult bird from Valparaíso to the Munich Museum. Landbeck insists on the distinctness of *S. frobenii*, but the differences pointed out by him appear to be due to age. He informs us that specimens similar to the type were obtained in March, 1864, in the harbor of Corral, Valdivia.

Trudeau's Tern has been found breeding on St. Ambros Island, in the St. Felix group, off the coast of Atacama, in December, 1907, and the eggs (in the collection of Colonel John E. Thayer) have been described by Bent.¹ On the Atlantic coast of South America it ranges from Rio de Janeiro to Punta Arenas, Straits of Magellan.

306. *Sterna hirundinacea* Lesson

Sterna hirundinacea Lesson, *Traité d'Orn.*, p. 621, 1831—"côtes du Brésil" = Santa Catharina (cf. Pucheran, *Rev. Mag. Zool.*, (2), 2, p. 539, 1850); Saunders, p. 522—Coquimbo Bay; E. Reed (4), p. 211—Chile; Schallow (2), p. 658—Calbuco (Puerto Montt), Llanquihue (eggs descr.); Pässler (3), p. 443—Isla Santa María, Arauco (breeding), and Coronel (eggs descr.).

(?) *Sterna atrofasciata*² Philippi and Landbeck, *Anal. Univ. Chile*, 21, p. 440, 1862—laguna de Vichuquen, Curicó; idem, *Arch. Naturg.*, 29, (1), p. 204—Llico, near the lagoon of Vichuquen, "Colchagua"; Philippi (12), p. 289—Colchagua; idem (24), p. 102, pl. 47, fig. 1—laguna of Vichuquen (=juv.).

Sterna hirundo Bibra, p. 132—Valparaíso Bay.

Sterna aranea (not of Wilson) Germain, p. 314—Chiloé (breeding habits).

Sterna cassinii Pelzeln (2), pp. 153, 163—Chiloé Island; Sclater (2), 1867, pp. 336, 340—Chile; Sclater and Salvin, *Ibis*, 1870, p. 500—Coquimbo.

Sterna antarctica Philippi (12), p. 289—Straits of Magellan to Valdivia.

Range in Chile.—From the Straits of Magellan to Coquimbo.

Material collected.—Chiloé Island: Rio Inio, ♂ ad. (nuptial plumage), Jan. 14.

The specimen agrees with others from Patagonia (Puerto Deseado). This tern is widely distributed along the seashore of southern and central Chile, though the northern limit of its breeding range remains to be determined. According to Germain, it breeds on Chiloé Island, assembling in flocks in November or December to lay its eggs, and chooses for this purpose sandy shores, depositing two or

¹Bull. U. S. Nat. Mus., 113, Longipennes, pp. 227-228, 1921.

²Judging from the wide blackish band across the upper wing coverts, this alleged species, resting on a single young female taken on December 4, 1861, at Llico, near the lagoon of Vichuquen, on the confines of the provinces of Colchagua and Curicó, seems to be referable to *S. hirundinacea* rather than *S. paradisaea*.

three eggs on the ground. Passler states that it nests in large colonies on grassy islands along the coast of southern and central Chile. He specifically mentions Santa María, off Arauco, as one of its breeding places. At Coronel it was seen in winter only, when this tern spreads as far north as Chimbote, Peru. Plate found it breeding in large numbers on Calbuco Island, near Puerto Montt, and Schalow describes the eggs as being similar to those of the European *S. a. albifrons* Pall., but considerably larger.

Sterna hirundo, stated by Dibra to be common in Valparaíso Bay, doubtless refers to the present species. The Common Tern, widely distributed in the northern parts of both hemispheres, has never been taken in Chile, although this country is sometimes included in its winter range.

S. hirundinacea is known to have an extensive range on both the Pacific and Atlantic coasts of southern South America.

307. *Sterna paradisaea* Brünnich

Sterna paradisaea Brünnich, Orn. Bor., p. 46, 1764—Christiansøe, Denmark.

Sterna arctica Philippi (12), p. 289—Prov. Valdivia.

Sterna macrura MacFarlane, Ibis, 1887, p. 203—Arica, Tacna.

Range in Chile.—Occasional winter visitor.

The claims of the Arctic Tern to be included in the Chilean fauna rest on two rather unsatisfactory records. Philippi somewhat hesitatingly refers an adult male "cazado en la provincia de Valdivia" to *S. arctica* [= *paradisaea*], and MacFarlane states that "on the 4th of October (1883) an immature Arctic Tern, *Sterna macrura*, was found [at Arica] in an exhausted condition in one of the boats on the davits, the most southern locality on record in America for this northern species."

308. *Sterna elegans elegans* Gambel

Sterna elegans Gambel, Proc. Ac. Nat. Sci. Phila., 4, "1848," p. 129, 1849—Mazatlan, Sinaloa, Mexico; Saunders, p. 521—Coquimbo Bay; E. Reed (4), p. 211—Chile; Saunders, Cat. B. Brit. Mus., 25, p. 84, 1896—Iquique (Tarapacá), Coquimbo Bay, Viña del Mar (Valparaíso), and Valdivia.

Sterna comata Philippi and Landbeck, Anal. Univ. Chile, 19, p. 614, 1861—Bay of Arica, Tacna; idem, Arch. Naturg., 29, (1), p. 126, 1863—Bay of Arica; Philippi (12), p. 289—northern Chile and Peru; Landbeck (6), p. 518; idem (7), p. 114—Corral (crit.); Philippi (24), p. 99, pl. 46, fig. 2—Arica.

Range in Chile.—From the Peruvian boundary (Arica) to Valdivia.

The Elegant Tern is a winter visitor to Chile. Philippi and Landbeck were the first to record it, when describing a female in winter plumage taken by Frobeen in November at Arica as a new species, *S. comata*. Landbeck afterwards found it fairly common in the bay of Corral from November to February, all the birds being in the white-fronted winter garb. Admiral Markham secured a specimen in similar plumage in November, 1881, in Coquimbo Bay. Birds in winter and immature dress from Viña del Mar, near Valparaíso, and from Valdivia (Edwyn C. Reed) are in the collection of the British Museum.

309. *Sterna fuscata luctuosa* Philippi and Landbeck

Sterna luctuosa Philippi and Landbeck, Arch. Naturg., 32, (1), p. 126, 1866—Rio Valdivia, between Corral and Valdivia; Sclater (2), 1867, pp. 337, 340—Chile (ex Philippi and Landbeck); Philippi (12), p. 289—Valdivia; idem (24), p. 101, pl. 46, fig. 1—Rio Valdivia.

Sterna fuliginosa (not of Gmelin) E. Reed (4), p. 211—Chile.

Range in Chile.—Accidental visitor (was once recorded from Valdivia).

A single adult female in emaciated condition caught on August 2, 1855, on the Rio Valdivia between Corral and Valdivia was described by Philippi and Landbeck as *S. luctuosa*. While description and colored figure leave no doubt as to its being a Sooty Tern, it is impossible to say, without examining the type, to which of the numerous races it pertains. *Luctuosa* may prove to be an earlier name for *S. f. crissalis* (Lawrence), which ranges from the Galapagos north to the Mexican coast, though the describer's statement that the outermost rectrix is for the greater part white on both webs, rather suggests *S. f. oahuensis* (Bloxham), of the Hawaiian Islands.

310. *Sterna lorata* Philippi and Landbeck

Sterna lorata Philippi and Landbeck, Anal. Univ. Chile, 19, p. 612, 1861—bay of Arica, Tacna; idem, Arch. Naturg., 29, (1), p. 124, 1863—bay of Arica; Philippi (24), p. 103, pl. 45, fig. 2—Arica.

Sterna exilis (not of Tschudi) Sclater (2), 1867, pp. 336, 340—Chile; E. Reed (4), p. 211—Chile; James (2), p. 12—Chile.

Range in Chile.—Extreme northern section in Arica, province of Tacna.

The type, an adult female, secured by Frobeen in September, 1851, in Arica Bay, appears to be the only recorded Chilean specimen of this well-characterized tern, whose breeding range extends all along the Peruvian coast to the Ecuadorian boundary line.

311. *Chlidonias nigra surinamensis* (Gmelin)

Sterna surinamensis Gmelin, Syst. Nat., 1, (2), p. 604, 1789—based on (Latham ex) "Hirondelle de mer, grande espèce" Fermin, Descr. Surinam, 2, p. 187, 1769, Surinam.

Hydrochelidon plumbea Pelzeln (2), p. 155—Chile.

Hydrochelidon fissipes Scater (2), 1867, pp. 337, 340—Chile (ex Pelzeln).

Hydrochelidon nigra E. Reed (4), p. 211—Chile.

Range in Chile.—Occasional winter visitor.

The only record of the Black Tern for Chile is a specimen shot by the naturalists of the "Novara" Expedition on a lake in the vicinity of Santiago. Edwyn Reed lists it as uncommon, without giving further details.¹

312. *Larus dominicanus dominicanus* Lichtenstein

Larus dominicanus Lichtenstein, Verz. Doubl. Berliner Mus., p. 82, 1823—coast of Brazil; Gray, List Spec. Bds. Brit. Mus., 3, p. 169, 1844—Valparaíso; Des Murs (2), p. 480—Chile; Peale, p. 289—Valparaíso Bay; Boeck, p. 512—Chiloé; Cassin, p. 204—Chile; Kittlitz, Denkwurd., 1, p. 113—San-Tomé, Concepción; Germain, p. 314—seashore of Chile (breeding habits); Scater (2), 1867, p. 340—Chile; Philippi (12), p. 287—Chile; Saunders, p. 527—Coquimbo; MacFarlane, Ibis, 1887, p. 202—La Compañía, Coquimbo; Waugh and Lataste (2), p. CLXXXIII—San Alfonso (Quillota), Valparaíso; Saunders, Cat. B. Brit. Mus., 25, p. 245, 1896—Coquimbo, Laraquete (Arauco), Valparaíso, Corral; E. Reed (4), p. 211—coast of Chile, notably Valparaíso Bay; Schalow (2), p. 657—Cavancha, Iquique, and Coquimbo; Passler (3), p. 442—Coronel, Santa María and Quiriquina Island (breeding); Jaffuel and Pirion, p. 114—Marga-Marga, Valparaíso; Bullock (4), p. 207—Angol, Malleco.

Larus verreauxi Bonaparte,² Rev. Mag. Zool., (2), 7, p. 16, 1855—Chile.

Larus dominicans ? Fraser (1), p. 119—shores of Chile.

Larus azarae Pelzeln (2), p. 151—Chile (eggs descr.).

Range in Chile.—From the Peruvian boundary south to the Straits of Magellan.

The Kelp Gull is widely distributed along the Chilean coast, where it is said to be a resident. According to Germain, it chooses, for laying, the summits of inaccessible rocks on the seashore, and deposits towards the last of November or in December two or three eggs, on a rock or upon the grass, with hardly any appearance of a nest. Pässler

¹*Gelochelidon nilotica aranea* (Wilson) is included by Des Murs (in Gay, p. 485: *Sterna aranea*) in the Chilean fauna. Philippi, however, has never seen it nor do I find any other authentic record of its occurrence in Chile. Until satisfactory evidence is forthcoming, the species may well be omitted in view of other unreliable statements in Gay's work. *Sterna aranea* of Germain refers to *S. hirundinacea*, as is shown by one of his specimens in the Vienna Museum.

²*Larus verreauxi* Bonaparte (Naumannia, 4, p. 211, 1854) is a nomen nudum.

states that these gulls nest on certain islands in large colonies, though sometimes, either on islands or on the coast, only a few pairs are associated. He found them breeding on Santa María, off Coronel, as well as on the Island of Quiriquina, near Talcaguano, Concepción. Both Pässler and Schalow describe the eggs as similar to those of *L. marinus*.

The Kelp Gull breeds also in large numbers in the Straits of Magellan, Tierra del Fuego, the Falklands, etc., and extends north along the Atlantic coast to southern Brazil, on the Pacific to Lobos Tierra, Peru. Nearly allied races occur in New Zealand (*L. d. antipodum*) and on the South Shetland Islands (*L. d. austrinus*).

313. *Larus belcheri* Vigors

Larus belcheri Vigors, Zool. Journ., 4, No. 15, p. 358, 1829—no locality given, coll. Edward Belcher, Voyage of the "Blossom"; Sclater (2), 1867, p. 340—Chile; Saunders, p. 526—Coquimbo Bay; E. Reed (4), p. 211—"Cape Horn to Arica"; Saunders, Cat. B. Brit. Mus., 25, p. 226, 1896—Coquimbo and Iquique.

Larus frobenii Philippi and Landbeck, Anal. Univ. Chile, 18, No. 6, June, p. 732, 1861—Arica, Tacna; idem, Arch. Naturg., 27, (1), p. 292, 1861—Arica; Philippi (12), p. 210—"Magellanes" and Peru; idem (24), p. 97, pl. 45, fig. 1—Arica.

Range in Chile.—Northern section, from Coquimbo to Arica (Tacna).

Belcher's Gull appears to be of rare occurrence in Chile, there being but three records from that country. The type of *L. frobenii*, an adult female, was taken by Froben at Arica in August, 1854; Admiral Markham secured a single immature bird in November, 1881, in Coquimbo Bay; and the late H. Saunders received a specimen in juvenile plumage from Iquique, Tarapacá, through S. F. Rowland.

The breeding grounds of this gull are in Peru, where, according to Murphy (Bird Islands of Peru, p. 283, 1925) it nests close to the breaking waves on the smaller rocky islets.¹

¹Dwight (Bull. Amer. Mus. N. H., 52, p. 158, 1925) gives its distribution as follows: "largely resident on the Falkland Islands and various coastal islands of Chile and Peru from Cape Horn to San Gallen Island and the North Chincha Islands, wandering chiefly northward after the breeding season," but all the specimens listed are from Peruvian localities. So far as I know, this gull is unknown in the Falkland Islands and has never been obtained anywhere south of Coquimbo. Cassin (U. S. Expl. Exp., p. 378, 1858), in listing *Larus fuliginosus* [= *L. belcheri*] merely quotes Peale as having seen this gull at various places between Cape Horn and Callao, but the specimens in the collection were all from Peru. Philippi (Anal. Univ. Chile, 31, p. 210, 1868) claims to have received *L. frobeni* from "Magellanes," but does not repeat this statement in his last account of the species in 1902, where only the type from Arica is mentioned. Both records are doubtless due to confusion with some other species.

314. *Larus modestus* Tschudi

Larus modestus Tschudi, Arch. Naturg., 9, (1), p. 389, 1843—"in Oceani pacifici littoribus"—Lurin, s. of Lima, Peru (cf. Tschudi, Faun. Peru., Aves, p. 307, 1846); Des Murs (2), p. 483—Valparaiso; Pelzeln (2), p. 151—Chile; Sclater (2), 1867, pp. 336, 340—Valparaiso; Philippi (12), p. 288—Valparaiso to Peru; Salvin, Cat. Strickland Coll., p. 620, 1882—Chile; E. Reed (4), p. 211—Valparaiso; Saunders, Cat. B. Brit. Mus., 25, p. 223, 1896—Iquique (Tarapacá) and Valparaiso; Nicoll, Ibis, 1904, p. 51—Valparaiso Bay; Dwight, Bull. Amer. Mus. N. H., 52, p. 144, 1925—Corral, Valdivia, and Puyehue, Cautin (monog.).

Larus bridgesii Fraser, P. Z. S. Lond., 13, p. 16, 1845—Valparaiso; idem, Zool. Typ., pl. 69, 1849—Valparaiso; Cassin, p. 205—Chile.

Larus fuliginosus (not of Gould) Gray, List Spec. Bds. Brit. Mus., 3, p. 170, 1844—part, spec. b, c, Chile (=juv.); Des Murs (2), p. 481—Chile (ex Gray).

Range in Chile.—From Tarapacá to Valdivia (Corral).

The Gray Gull is reported to be a resident on the coast of Chile and Peru from Corral, Valdivia, in the south to Ancon, near Lima, in the north. It has been taken at various times in Valparaiso Bay. The British Museum has adult and young from Iquique, Tarapacá, and Dwight mentions specimens from Corral (September, October) and Puyehue, Cautin (February). According to Murphy,¹ it breeds only on the mainland, but during the greater part of the year it frequents islands with sandy strands, where it feeds in droves upon crustaceans in the wave-wash. No definite breeding locality in Chile has been recorded.

315. *Larus pipixcan* Wagler²

Larus pipixcan Wagler,¹ Isis, 1831, Heft 5 (May), col. 515—Mexico (type in Munich Museum examined).

Larus cinereo-caudatus Philippi and Landbeck, Anal. Univ. Chile, 18, No. 6, June, p. 733, 1861—San-Tomé (Concepción), Valparaiso, and Arica; idem, Arch. Naturg., 27, (1), p. 293, 1861—same localities; Philippi (12), p. 288—Concepción to Peru; idem (24), p. 98—San-Tomé, Valparaiso, Arica.

Larus bonapartei (not of Swainson and Richardson) Des Murs (2), p. 483—Chile.

Larus franklinii Des Murs (2), p. 482—Chile (ex Gray); Sclater (2), 1867, pp. 336, 340—Chile (crit., synon.); Saunders, p. 524—Coquimbo Bay; Salvin, Cat. Strickland Coll., p. 621, 1882—Chile; E. Reed (4), p. 211—Chile; Nicoll, Ibis, 1904, p. 50—Valparaiso; (?) Housse (1), p. 53—Isla La Mocha, Arauco.

¹Bird Islands of Peru, p. 283, 1925.

²*Larus atricilla* (Linnaeus), sometimes credited to Chile, has never been found there.

³This name has unquestionable priority over *L. franklini* Richardson (Faun. Bor.-Amer., 2, "1831," p. 424, pl. 71, Feb., 1832).

Larus cucullatus Kittlitz, Denkwurd., 1, p. 113—San-Tomé, Concepción.
Chroicocephalus killitzii Bruch, Journ. Orn., 1, p. 104, 1853—southern Chile
 (based on a drawing in the St. Pétersburg Museum).

Xema franklini Gray, List Spec. Bds. Brit. Mus., 3, p. 172, 1844—Valparaíso.
 Range in Chile.—From Arica to Arauco (Isla La Mocha).

Franklin's Gull is a winter visitant to Chile. Specific records are from Ciudad Tomé (September, 1859) and Talcaguano (Dec. 25, 1903), Concepción; Valparaíso (September, 1859; February, 1903; March 9 and 14); and Coquimbo (November, 1881).

316. *Larus serranus* Tschudi¹

Larus serranus Tschudi, Arch. Naturg., 10, (1), p. 414, 1844—Peru = Puna region, Valley of Jauja, Junín (cf. Tschudi, Faun. Peru., Aves, p. 307, 1846); Philippi (12), p. 288—Chile to Peru; E. Reed (2), p. 568—Laguna de los Pejerreyes, Colchagua; Sclater (4), 1886, p. 404—Huasco, Sitani, and Cueva Negra, Tarapacá; Philippi, Ornith., 4, p. 160—Antofagasta; Sclater (6), 1891, p. 137—Sacaya and Lake of Huasco, Tarapacá; idem, Ibis, 1897, p. 312—Huasco and Sacaya; E. Reed (4), p. 211—Cordilleras of Chile.

Range in Chile.—Cordilleras of northern Chile, Antofagasta to Tarapacá. Once recorded from Colchagua (Laguna de los Pejerreyes).

Specimens from Tarapacá (Sacaya, Huasco) in the British Museum agree with others from Peru.

Tschudi's Black-capped Gull appears to be chiefly restricted to the Cordilleras of the northern provinces, where it breeds on the Andean lakes and ponds. Although Philippi gives the whole of Chile as its range, it must be very rare in the central section of the country.² The only record I can find is a specimen taken by Edwyn Reed on the Laguna de los Pejerreyes, at an elevation of 2,000 meters, near the sources of the Rio Cachapoal, Colchagua. The skin in the British Museum labeled "Chilean Andes, 7,000 feet, E. C. Reed" is probably the very same individual.

While known to descend in winter time to the Peruvian coast, *L. serranus* has not yet been found in Chile anywhere near the sea-shore, so far as I am aware. Its range extends north to Ecuador.

317. *Larus maculipennis* Lichtenstein

Larus maculipennis Lichtenstein, Verz. Doubl. Berliner Mus., p. 83, 1823—Montevideo, Uruguay; Saunders, p. 526—Talcaguano (crit.); idem, Cat.

¹*Larus melanorhynchus* Temminck (Nouv. Rec. Pl. Col., livr. 85, pl. 504, 1830), based on a specimen in the Leyden Museum supposed to be from "Chile," is clearly the same as *L. philadelphia* (Ord), a North American species that has never been found in Chile. Cf. Schlegel, Mus. Pays-Bas., 6, p. 41, 1863.

²Hartert's record (Kat. Vogels. Mus. Senckenb. Naturf. Ges. Frankfurt, p. 241, 1891) from "Valdivia" is open to doubt.

B. Brit. Mus., 25, p. 200, 1896—Arauco, Talcaguano, and Valparaíso (Viña del Mar); Sclater, Ibis, 1897, p. 312—Viña del Mar (Valparaíso) and Laraquete (Arauco); Schalow (2), p. 567—Cavanha (Iquique), Tarapacá; Passler (1), p. 101—Tocopilla and Antofagasta, Antofagasta; C. S. Reed (4), p. 190—Villa de Tolten, Cautin.

Larus glaucoodes Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 115, pl. 24, 1834—coast of Chile; Cassin, p. 204—Chile; Germain, p. 314—lakes and rivers of southern Chile; Philippi (12), p. 288—coast of Chile; Saunders, p. 526—Talcaguano (crit.); idem, Cat. B. Brit. Mus., 25, p. 203, 1896—Talcaguano, Colchagua, Algarrobo, Santiago, Valparaíso, Coquimbo; Ridgway (2), p. 139—Port Otway; E. Reed (4), p. 211—Chile; Sclater, Ibis, 1897, p. 312—Viña del Mar, Valparaíso, and Laraquete, Arauco; Schalow (2), p. 656—Tumbes and Talcaguano (Concepción), and Lago Llanquihue.

Larus albipennis Peale, U. S. Expl. Exp., 8, p. 288, 1848—harbor of Valparaíso; Kittlitz, Denkwurd., 1, p. 138—Valparaíso.

Larus erythropus (not of Gmelin, 1789) Kittlitz, Denkwurd. Reise, 1, p. 113, 1858—San-Tomé, Concepción (substitute name for *L. albipennis*).

Xema (Chroicocephalus) cirrocephalum Fraser (1), p. 119—shores of Chile.

Larus cirrhocephalus Des Murs (2), p. 482—Chile (part, "juv.");¹ Boeck, p. 512—Rio Cruces and "Arend" [=Ancud], Chiloé; Frauenfeld, p. 639—Lake Aculeo, Santiago; Pelzel (2), p. 151—Chile (eggs descr.); Sharpe, p. 16—Talcaguano; E. Reed (4), p. 211—coast of Tarapacá.

Larus glaucotis Sclater (2), 1867, p. 340—Chile.

(?) *Larus franklini* (not of Richardson) Waugh and Lataste (2), p. CLXXIII—San Alfonso (Quillota), Valparaíso (June).²

Hydrocoloeus maculipennis Dwight, Bull. Amer. Mus. N. H., 52, p. 295, figs. 315-326, 1925 (monog.).

Larus glaucoides Bullock (4), p. 208—Angol, Malleco (August to April).

Range in Chile.—From Tarapacá to the Straits of Magellan.

Material collected.—Cautin: Lake Gualletué (alt. 3,800 feet), ♀ juv., Feb. 16.—Chiloé Island: Quellon, ♂ ad., Jan. 5.

This species, which is nearly, perhaps subspecifically, related to the European Laughing Gull (*Larus ridibundus*) shows considerable variation in the wing pattern, and until recently the birds with white primaries (*L. glaucoodes*) were regarded as specifically different from those with black-banded primaries (*L. maculipennis*), although the coexistence of the two types over large sections of both the Pacific and Atlantic coasts of South America hardly seemed to favor such a theory. The solution of the puzzling problem was reserved to

¹The description of the "adult" appears to have been taken from the gray-hooded *L. cirrhocephalus* Vieillot, which has not yet been ascertained to occur in Chile, although Dwight (Bull. Amer. Mus. N. H., 52, p. 272, 1925) includes this country in its winter range.

²I could not find these specimens in the collections of the Paris Museum.

Dr. Dwight, who conclusively showed the difference to be due to age and individual development. *L. glaucodes* is the fully adult bird, while the stage known as *L. maculipennis* represents an abnormal (reversionary) type of second-year plumage.

The Patagonian Brown-headed Gull breeds in Tierra del Fuego, the Falkland Islands, and on the coast of Patagonia and southern Chile. The northward limit of its breeding range in the latter country remains to be determined, but it probably does not extend much beyond Valdivia. According to Germain, the gulls assemble in flocks, late in November or during December, to lay their eggs. They retire for this purpose to lakes in the vicinity of the seashore or to the rivers in the south of Chile, and build large floating nests, composed of grass and rushes, in which they deposit two or three eggs. Boeck found them nesting on an island in the Rio Cruces, Valdivia. After the breeding season, they spread all along the Chilean coast, and specimens have been taken as far north as Antofagasta and Iquique (Tarapacá).

318. *Leucophaeus scoresbii* (Traill)

Larus scoresbii Traill, Mem. Wern. Soc., 4, p. 514, 1823—New South Shetland Island; Pelzeln (2), pp. 151, 163—Chiloé Island; Sclater (2), 1867, pp. 336, 340—Chile; E. Reed (4), p. 211—Magallania to Chiloé.

Larus haematorhynchus King, Zool. Journ., 4, p. 103, 1828—Straits of Magellan; Des Murs (2), p. 481—Magellan Straits (ex King); Philippi (12), p. 288—Magallanes to Chiloé.

Range in Chile.—Southern provinces, from the Straits of Magellan north to Chiloé Island.

Material examined.—Chiloé Island: adult, Dec., 1857. F. Germain (Vienna Museum).

Scoresby's Gull, a southern species inhabiting Tierra del Fuego, the Cape Horn region, the Falklands, and other subantarctic islands, has been taken by several collectors in the vicinity of Chiloé Island, where it is probably found only in the non-breeding season.

319. *Stercorarius parasiticus* (Linnaeus)

Larus parasiticus Linnaeus, Syst. Nat., 10th ed., 1, p. 136, 1758—"intra tropicum Cancri, Europae, Americae, Asiae," restricted type locality, coast of Sweden; cf. Lonnberg, Zoologist, (4), 7, pp. 338-342, 1903.

Stercorarius crepidatus Nicoll, Ibis, 1904, p. 51—Valparaiso Bay.

Range in Chile.—Occasional winter visitant. Once recorded from Valparaiso.

The late M. Nicoll shot a single male out of a flock of small skuas of both the light and dark phase in February, 1903, in the bay of Valparaiso. This record constitutes the most southerly locality for the winter range of the Parasitic Jaeger on the Pacific coast of South America.

320. *Megalestris skua chilensis* (Bonaparte)

Stercorarius antarcticus b. *chilensis* Bonaparte, Consp. Av., 2, p. 207, 1857—"Amer. merid." = Chile (type in Berlin Museum).

Stercorarius antarcticus (not of Lesson) Des Murs (2), p. 479—part, Magellania; Philippi (12), p. 287—part, Magellania (ex Gay).

Stercorarius chilensis Saunders, P. Z. S. Lond., 1876, p. 323, pl. 24—Mejillones Bay, Bolivia [now Antofagasta], Valparaiso, and Coquimbo (crit.); Sharpe, p. 17—Talcaguano; E. Reed (4), p. 211—Chile.

Megalestris chilensis Saunders, Cat. B. Brit. Mus., 25, p. 318, 1896—Talcaguano, Iquique, Mejillones Bay; Schalow (2), p. 655—Coquimbo; Pässler (1), p. 101—Santa María Island, off Coronel, Concepción (breeding); idem (3), p. 444—Chile, north to Arica (habits, eggs descr.); Housse (1), p. 53—Isla La Mocha, Arauco.

Range in Chile.—From Arica to the Straits of Magellan.

The Chilean Skua is clearly conspecific with the Arctic *M. s. skua*, from which it differs mainly by more cinnameous lower parts, axillars, and under wing coverts.

It breeds in Tierra del Fuego, the Straits of Magellan, and on the Chilean coast. The only definite breeding locality in Chile is Santa María Island in Arauco Bay, where Pässler secured two eggs which he describes as similar to those of the typical race, but of darker coloration with nearly black markings. Pässler also observed adults with young birds towards the end of December at Punta Angamos, Mejillones Bay, Antofagasta, probably not far from their breeding grounds. J. R. Denison obtained several adults and an immature specimen late in February or at the beginning of March in the same locality, while G. Mathew met with the species at Valparaiso in January and a month later at Coquimbo. Plate secured it at the latter place in October, and Coppinger at Talcaguano in September. In winter the Chilean Skua wanders northwards to Arica and Peru, and along the Atlantic coast as far as Rio de Janeiro.

321. *Oceanodroma hornbyi* (Gray)

Thalassidroma hornbyi G. R. Gray, P. Z. S. Lond., 21, "1853," p. 62, July 25, 1854—"northwest coast of America," errore.

Procellaria (Oceanites) collaris Philippi, Verh. Deuts. Wiss. Ver. Santiago, 3, Heft 1-2, p. 11, pl., 1895—east of Taltal, Antofagasta; idem (24), p. 90, pl. 42, fig. 3—east of Taltal.

Oceanites collaris Passler (1a), p. 43—32° s., 72° w. [=off Quilimarí, n. of Valparaíso].

Oceanites hornbyi Passler (1a), pp. 273, 274—off Coquimbo and Iquique; idem (1b), p. 71—23° s., 70° 7' w. [=off Mejillones, Antofagasta; Murphy, Auk, 39, p. 60—Peru and Chile (crit.); Stresemann, Ornith. Monatsber., 32, p. 61, 1924—Santa Luisa, Antofagasta; idem, l. c., 37, p. 80, 1929—Pampa del Toco, near Tocopilla, Antofagasta.

Range in Chile.—Coastal waters of northern Chile, from Quilimarí, Valparaíso, northwards; probably breeding in the Cordilleras of Antofagasta.

No Chilean material is available, but Field Museum has a series of this petrel collected by C. C. Sanborn off the Peruvian coast forty miles north of Mollendo and north of Callao. Dr. Chapman, who examined the original specimen of *P. collaris* in the Santiago Museum, found it to be identical with *O. hornbyi*.

Hornby's Petrel is known to inhabit the offshore waters of the Pacific coast of South America from Quilimarí, Valparaíso, north to the Gulf of Guayaquil, Ecuador. The type of *P. collaris*, together with a downy young, was picked up dead by Dr. Darapsky in Antofagasta, inland of Taltal. A mummified specimen was discovered in December, 1903, in a nitrate mine near Santa Luisa (alt. 1,600 meters), as reported by Stresemann, and the petrel mummies found by Wetzel in nitrate deposits in the Pampa del Toco, near Tocopilla, and in the vicinity of Rio Loa seem to be referable to the same species.

These facts seem to indicate that this petrel, whose breeding grounds are still unknown, may nest far away from the sea in the Cordilleras of the desert of Atacama.¹

322. *Fregetta grallaria segethi* (Philippi and Landbeck)

Thalassidroma segethi Philippi and Landbeck, Arch. Naturg., 26, (1), p. 282, 1860—coast of Chile; idem, Anal. Univ. Chile, 18, p. 27, 1861—coast of Chile; Philippi (12), p. 286—Valdivia; Sclater (2), 1867, p. 336—Chile (crit.).

Thalassidroma (Oceanites) segethi Philippi (24), p. 92, pl. 44—Chile.

¹In this connection it should be mentioned that, according to E. Schlegel, a breeding colony of some other petrel exists at Colupito in the coastal Cordillera of Antofagasta, inland of Tocopilla. Stresemann (Ornith. Monatsber., 32, p. 63, 1924) suggests this may be *Puffinus griseus [chilensis (Bonaparte)]*, but in the absence of specimens the identification is, of course, open to doubt.

Fregatta grallaria segethi Mathews, Bds. Austr., 2, p. 41, 1912—waters of the west coast of South America.

Range in Chile.--Once recorded from an unspecified locality on the Chilean coast.

This little petrel, which inhabits the South Pacific Ocean, was described by Philippi and Landbeck from a single specimen presented to the Santiago Museum by Dr. Segeth. The exact locality is not known, although Philippi in one of his papers—evidently by mistake—indicates Valdivia. An example in the British Museum was taken by Dr. Coppinger, the naturalist of the "Alert," off San Ambrose Island, and others were obtained by the "Challenger" Expedition in the South Pacific Ocean.

As has been shown by Mathews, these birds differ from *F. g. grallaria* (Vieillot), of the Australian Sea, by decidedly larger size and should stand under Philippi and Landbeck's name. *T. segethi* had tentatively been identified by Sclater with *Oceanites gracilis* (Elliot), from which it appears, however, to be quite distinct.

323. *Aechmophorus major* (Boddaert)

Colymbus major Boddaert, Tabl. Pl. Col., p. 24, 1783—based on Daubenton, Pl. Enl., 404, fig. 1, "Cayenne" (error).

Podiceps chilensis (not of Lesson) Fraser (1), p. 119—sea and fresh-water lakes near the coast of Chile; Yarrell, p. 54—Chile (eggs descr.).

Podiceps bicornis Bibra, p. 132—Valdivia and Algodon Bay.

Podiceps leucopterus Hartlaub (3), p. 218—Valdivia; Boeck, p. 511—Rio Valdivia and Laguna de "Clarquihue" [=Llanquihue]; Cassin, p. 205—coast of Chile; Frauenfeld, p. 638—Lake Aculeo, Santiago; Sclater (2), 1867, p. 340—Chile; E. Reed (2), p. 568—Laguna de Cauquenes, Colchagua; Lataste (9), p. 172—Lake Aculeo; idem (11), p. 135 (nesting habits).

Podiceps leucurus (sic) Lataste (10), p. 193—Lake Aculeo, Santiago (nesting habits).

"*Podiceps* King (Guala, Huala)" Philippi (12), p. 284—central provinces.

Podiceps major Salvin (2), p. 432—Coquimbo Bay.

Aechmophorus major E. Reed (4), p. 212—Chile; Lane, p. 313—Laguna Llanquihue; Schalow (2), p. 652—Villarrica and Laguna Llanquihue; Passler (3), p. 439—near Coronel; C. Reed (4), p. 189—Laguna de Curacavi, Santiago (food); Barros (8), p. 264—Laguna de Vichuquen, Curicó (food); Jaffuel and Pirion, p. 114—Marga-Marga, Valparaiso; Bros, p. 381—Marga-Marga.

Range in Chile.—From Coquimbo to the Straits of Magellan.

Material collected.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ ad. (nuptial), Feb. 15.

This large grebe, called "Guala" or "Huala" by the natives, is reported to be common in the southern, less frequent in the central provinces. It is particularly fond of mountain lakes, where it breeds, and probably visits the seacoast only in winter. Lataste, who found it breeding on Lake Aculeo, gives interesting details on its habits, and describes the nest and the single egg.

Its general range, outside of Chile, includes southern Argentina, Uruguay, and the extreme south of Brazil (Rio Grande do Sul).¹

324. *Colymbus occipitalis occipitalis* (Garnot)

Podiceps occipitalis Garnot,² Ann. Sci. Nat., 7, p. 50, 1826—Falkland Islands.

Podiceps kalipareus Fraser (1), p. 119—Bay of Valparaiso; Yarrell, p. 55—Chile (eggs descr.); Des Murs (2), p. 464—coast of Chile; Bibra, p. 132—near Santiago; Philippi (12), p. 284—Chile.

*Podiceps calipareus*³ Hartlaub (3), p. 218—Valdivia; Pelzeln (2), p. 140—Chile; Sclater (2), 1867, p. 340—Chile; E. Reed (2), p. 569—Cauquenes, Colchagua, and Cordillera of Santiago; Schalow (2), p. 651—Talcaguano and Valparaiso; E. Reed (4), p. 212—Chile; Passler (3), p. 438—Coronel and Talcaguano (winter); Gigoux, p. 84—Puerto Ingles, Atacama; Barros (8), p. 264—Rieccillos, Aconcagua (food); Jaffuel and Pirion, p. 114—Marga-Marga, Valparaiso; Bullock (4), p. 208—Angol; Barros (10), p. 356—Cordillera of Aconcagua; Bros, p. 381—Marga-Marga, Valparaiso.

Podiceps caliparius Sclater and Salvin, Ibis, 1869, p. 284—Chiloé.

Range in Chile.—From Atacama (Caldera) to the Straits of Magellan.

Material collected.—Malleco: Lake Malleco (alt. 3,500 feet), ♂ ad. (nuptial plumage), Jan. 20.

We have not been able to examine topotypical material from the Falkland Islands, and it is quite possible that direct comparison may show the Chilean birds to be separable.

This grebe inhabits during the breeding season the lakes of the Cordilleras of the central provinces at altitudes of from 3,000 to 10,000 feet. R. Barros found it breeding in the Andes of Aconcagua. Edwyn Reed obtained specimens on a lagoon near Cauquenes, Colchagua (alt. 2,000 meters), and others in the Cordillera of Santiago (alt. 3,000 meters). In the southern parts of the republic it is found

¹The localities "Cayenne" and "Rio Negro, Brazil" are no doubt incorrect.

²This name has priority over *Podiceps kalipareus* Lesson and Garnot (Voy. Coquille, Zool., 1, livr. 5, pl. 45, Oct., 1827) and *Podiceps calipareus* Lesson (l. c., Zool., 1, (2), livr. 16, p. 727, May, 1830—Rio Bougainville, Soledad Bay, near Port Louis, Falkland Islands), and is also earlier than *Podiceps occipitalis* Lesson (Man. d'Orn., 2, p. 356, June, 1828—Rio Bougainville, Falkland Islands).

³Variously spelled *calipareus*, *caliparaeus*, and *caliparoëus*.

at lower elevations. In winter the birds resort to the seacoast. Pässler met with large numbers in June and July in the bays of Talcaguano and Coronel, and Gigoux with a flock of eleven on May 22, 1921, as far north as Puerto Ingles, south of Caldera, province of Atacama.

Its extralimital range comprises the greater part of western and southern Argentina and the Falkland Islands.

325. *Colymbus occipitalis juninensis* (Berlepsch and Stolzmann)

Podiceps calliparaeus juninensis Berlepsch and Stolzmann, Ibis, (6th ser.), 6, p. 112, 1894—Lake Junín, Peru.

Podiceps callipareus (not of Lesson and Garnot) Philippi, Ornith., 4, p. 160—Antofagasta.

Podiceps caliparaeus Sclater (6), 1891, p. 137—Lake Huasco, Tarapacá.

Podicipes calipareus Lane, p. 313—Huasco and Sacaya, Tarapacá.

Range in Chile.—Puna Zone of the northern provinces of Antofagasta and Tarapacá.

Material examined.—Tarapacá: Lake Huasco, ♂ ad., March 3, 1890. A. A. Lane (British Museum).

This specimen, though in very poor condition, agrees in the wholly white throat with others from Peru (Laguna de Tungasuca) and Bolivia (Potosí). The few traces left of the auricular tufts are drab, not tinged with golden-buff. I have no hesitation in referring it to *C. o. juninensis*. According to Lane, this grebe is of regular occurrence on Lake Huasco. I have little doubt that the bird from Antofagasta recorded by Philippi as *P. callipareus* belongs likewise here.

C. o. juninensis, a very well-marked race, differs from typical *occipitalis* by darker (sooty rather than drab gray) pileum, less extensive black nuchal patch, pure white (instead of drab gray) throat and subocular region, and whitish tip to the lower mandible, while the auricular tufts are drab instead of yellowish isabella color. It inhabits the Paramo Zone of Ecuador, Peru, Bolivia, and northern Chile. Field Museum has a fine series of adults and young in various stages from Antisana, Ecuador.

326. *Colymbus rolland chilensis* (Lesson)

Podiceps chilensis (Garnot MS.) Lesson, Man. d'Orn., 2, p. 358, June, 1828—Concepción; Des Murs (2), p. 464—Chile; Frauenfeld, p. 638—Lake Aculeo, Santiago; Sclater (2), 1867, p. 340—Chile.

Podiceps americanus (Garnot MS.) Lesson, Man. d'Orn., 2, p. 358, June, 1828—Concepción; Garnot, Voy. Coquille, Zool., 1, (2), livr. 13, p. 599, Nov., 1829—Concepción; Des Murs (2), p. 465—Concepción (ex Garnot); Boeck, p. 511—Valdivia; Philippi (12), p. 284—southern provinces; Barros (4), p. 17—Ñilahué, Curicó; Housse (3), p. 227—Isla La Mocha, Arauco; Passler (3), p. 437—Coronel (breeding habits); Barros (3), p. 264—Laguna de Torca, Curicó (food); Jaffuel and Pirion, p. 114—Marga-Marga, Valparaíso.

Podiceps chilensis Garnot, Voy. Coquille, Zool., 1, (2), livr. 14, p. 601, Jan., 1830—Concepción.

Podiceps rollandii (not *P. rolland* Quoy and Gaimard) Fraser (1), p. 119—near the coast; Des Murs (2), p. 463—Chile; Hartlaub (3), p. 218—Valdivia; Boeck, p. 511—Valdivia; Pelzeln (2), p. 140—Chile; Schlater (2), 1867, p. 340—Chile; Philippi (12), p. 284—central provinces; E. Reed (2), p. 568—Cauquenes, Colchagua; Sharpe, p. 17—Talcaguano; Salvin (2), p. 432—Talcaguano; Lataste (1), p. CXV—Cauquenes, Colchagua; idem (5), p. LXII—Llohué (Itata), Maule; Waugh and Lataste (2), p. CLXXXIII—San Alfonso (Quillota), Valparaíso; Schalow (2), p. 651—Valparaíso and Lago Llanquihue; E. Reed (4), p. 212—Chile; Passler (3), p. 437—Coronel, Ancud, and Corral; Bullock (4), p. 208—Angol, Malleco.

Podiceps rollandi Lane, p. 313—Laguna Llanquihue and Río Bueno, Valdivia.

Range in Chile.—From Valparaíso to the Straits of Magellan.

Material collected.—Cautin: Lake Gualletué (alt. 3,800 feet), ♂ juv., Feb. 16.—Valdivia: Ríñihue, ♂ ad. (winter plumage), March 5.—Guaitecas Islands: Lagrèze Canal, ♀ ad. (winter plumage), Feb. 3.

This continental representative differs from *C. r. rolland* (Quoy and Gaimard), of the Falkland Islands, by much smaller size and duller as well as darker rufous under parts in the nuptial plumage. By some unaccountable mistake, this species was described twice by Lesson and Garnot under different names with very nearly the same phrases, though somewhat differently worded. Both descriptions were obviously based on the very same individuals, some of which had been obtained at Concepción during the voyage of the "Coquille," while others had been taken by Auguste de Saint-Hilaire in Rio Grande [do Sul], Brazil. The name *P. chilensis* standing first must be adopted.

The "Pimpollo" of the natives is widely distributed throughout the central and southern provinces of Chile down to the Straits of Magellan. According to Edwyn Reed, it is the most abundant species among the grebes and very common on all the lakes, but less so in the mountains. Pässler tells us that it breeds at Coronel in September and October, building its nest immediately above the

water on lakes and marshy meadows. His notes, placed under two headings, clearly refer to a single species.

This grebe has a wide range in southern and western South America. Birds from Chile, Bolivia, and Argentina appear to be alike.

327. *Podilymbus podiceps antarcticus* (Lesson)

Podiceps antarcticus Lesson, Rev. Zool., 5, p. 209, 1842—Valparaiso; idem, Écho du Monde Sav., 9, 2nd sem., No. 11, col. 253, Aug., 1842—Valparaiso; Des Murs (2), p. 465—Valparaiso (ex Lesson); Philippi (12), p. 284—lakes of Valparaiso; Lataste (2), p. XXXIV—Rio Tinguiririca (Vichuquen), Curicó; Waugh and Lataste (2), p. CLXXIII—San Alfonso (Quillota), Valparaiso.

Podilymbus brevirostris Gray and Mitchell, Gen. Birds, 3, p. 633, pl. 172, 1846—no locality given, the types (in the British Museum) were obtained by T. Bridges in Chile; Bibra, p. 132—Santiago; Cassin, p. 205—Chile.

Podilymbus antarcticus Hartlaub (3), p. 218—Valdivia (crit.); Germain, p. 314—Santiago (breeding habits); Sclater (2), 1867, pp. 337, 340—Chile (crit.); E. Reed (2), p. 569—Laguna de Cauquenes, Colchagua; idem (4), p. 212—central provinces; Lane, p. 314—Laguna Llanquihue and Rio Bueno, Valdivia; Schalow (2), p. 650—Laguna Llanquihue; Passler (3), p. 438—Coronel (nesting); Bullock (4), p. 210—Angol, Malleco (breeding).

Podilymbus carolinensis Pelzeln (2), p. 140—Chile.

Podilymbus podiceps Sclater and Salvin, Ibis, 1869, p. 284—Chiloé; idem, l. c., 1870, p. 500—Compañia, Coquimbo; Barros (4), p. 17—Nilahue, Curicó; Bullock, El Hornero, 3, p. 92 (nest); Jaffuel and Pirion, p. 114—Marga-Marga, Valparaiso.

Podilymbus podiceps antarcticus Wetmore (3), p. 49—Concon, Valparaiso.

Range in Chile.—From Coquimbo to Llanquihue.

This race, of which we have seen a fair number of Chilean examples in the collection of the British Museum and at Paris, may be separated from the Pied-billed Grebe of North America by the slightly more grayish dorsal surface, more dusky-spotted under parts and somewhat deeper, more robust bill; the wings are frequently, though not constantly, slightly longer.

The Pied-billed Grebe, the "Picurio" of the natives, is sparingly diffused throughout central and southern Chile. The most northerly locality on record is Compañia, near Coquimbo, where a young bird was taken by Cunningham. It is said to be nowhere plentiful. According to Germain, this bird builds on small streams a flat, floating nest, composed of wet grass, in which it lays in October and November three or four eggs. R. Barros found it not uncommon in the Valley of Nilahue, Curicó, where it starts to breed in the first

half of September. Pässler secured a nest with three eggs at Coronel on October 15.

In opposition to the view expressed in another place,¹ I am now inclined to refer the Pied-billed Grebe of the whole of South America to *P. p. antarcticus*. As correctly stated by Chapman,² single specimens are not always separable from the North American bird, but by far the greater number have stouter bills and are less purely white underneath, owing to the dusky bases of the feathers showing through.

328. *Spheniscus magellanicus* (Forster)

Aptenodytes magellanicus Forster, Comm. Soc. Reg. Scient. Gotting., 3, p. 143, pl. 5, 1781—Staten Island, Tierra del Fuego, and the Falkland Islands.

Spheniscus trifasciatus (Landbeck MS.) Philippi, Zeits. Ges. Naturw., N. F., 7, p. 121, pll. 1, 2, 1873—Valdivia; idem (24), p. 81, pl. 36, fig. 3 (head)—Valdivia.

Spheniscus humboldti (not of Meyen) E. Reed, Ibis, 1874, p. 83—"Masafuera"; Johow, pp. 29, 238—Mas A Tierra and Santa Clara Islands (breeding); E. Reed (4), p. 212—part, Juan Fernandez and Santa Clara Islands; Housse (1), p. 53—Isla La Mocha, Arauco.

Spheniscus magellanicus Lane, p. 314—Corral, Valdivia; Schalow (2), p. 648—part, Coquimbo; Passler (1), p. 102—Isla Santa María, Arauco; Chapman, Bull. Brit. Orn. Cl., 46, p. 120—Puerto Montt to Guaitecas Islands; Lonnberg, p. 16—Santa Clara Island and Mas A Tierra.

(?) *Spheniscus modestus* Philippi, Anal. Univ. Chile, 103, p. 671, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 171, 1899—Chiloé Island; idem (24), p. 84, pl. 39, figs. 1, 3—Chiloé Island (=juv.).

Range in Chile.—Southern provinces from Concepción to the Straits of Magellan, also the islands of Mas A Tierra and Santa Clara in the Juan Fernandez group; migrating in winter as far north as Coquimbo.

Material collected.—Chiloé Island: Rio Inio, ♂ imm., Jan. 13, 1923.

Additional specimens.—Valdivia: Corral, one ♀ ad., two juv., Dec., 1920, and Jan., 1922. F. Ohde (Munich Museum).

The Chiloé bird is indistinguishable from specimens in corresponding stage taken at Rivadavia on the coast of Chubut, eastern Patagonia, and is clearly referable to *S. magellanicus*. An adult in full plumage from Corral, Valdivia, which we have examined in the Munich Museum, undoubtedly belongs to the same species, showing

¹Field Mus. Nat. Hist., Zool. Ser., 12, p. 500, 1929.

²Bull. Amer. Mus. Nat. Hist., 55, p. 181, 1926.

—in addition to the dark gular area - two black bands underneath, a feature also exhibited in Philippi's plate of *S. trifasciatus*, which is obviously synonymous with *S. magellanicus*. As far as is possible to judge from the rather poor description and wretched figure, *S. modestus* appears to have been based on a young bird of the present species.

This penguin, as a breeding bird, is evidently restricted to the southern parts of Chile. Lane states that it is common about Corral in summer time, becoming more numerous in winter, and Chapman found it nesting on densely forested islands between Puerto Montt and the Guaitecas Archipelago. The birds breeding on Mas A Tierra and Santa Clara Islands, Juan Fernandez group, which have been referred by the earlier writers to *S. humboldti*, turn out to be *S. magellanicus*, as shown by Lönnberg. Dr. R. C. Murphy (in litt.) also informs me that all penguins seen by him from that region are *magellanicus*. Pässler records these birds from Santa María, off Arauco, hence there can be little doubt that the species known to breed on the Isla La Mocha is *magellanicus* and not *humboldti*.

In winter these birds apparently stray northwards into the breeding range of the allied *S. humboldti*, an adult specimen having been taken by L. Plate as far north as Coquimbo, as recorded by Schalow.¹

329. *Spheniscus humboldti* Meyen²

Spheniscus humboldti (i) Meyen, Nov. Act. Acad. Caes. Leop.-Carol. Nat. Cur., 16, Suppl., p. 110, pl. 21, 1834—Callao, Peru; Des Murs (2), p. 467—coast of Chile; Philippi, Reise Wüste Atacama, p. 165—coast of Atacama; Pelzeln (2), p. 142—Chile; Sclater (2), 1867, pp. 337, 340—Chile; Philippi (12), p. 285—coast of Chile and Peru; idem, Zeits. Ges. Naturw., N. F., 7, p. 126— island off Algarrobo, Valparaíso (breeding habits); Streets, p. 33— Talcaguano, Concepción Bay; Philippi, Ornith., 4, p. 160—coast of northern Chile; E. Reed (4), p. 212—part, coast of Chile; Schalow (2), p. 650—Isla dos Pajaros, Coquimbo; Philippi (24), p. 86, pl. 36 (figs. 1, 2), 37, 39 (fig. 2)—Chile (crit.); Passler (1), p. 102—Caleta Buena, Tarapacá; idem (3), p. 439—coast of Antofagasta and Coronel.

Aptenodytes chilensis Bibra, p. 132—coast of Chile (Valparaíso).

Spheniscus magellanicus (not of Forster) Schalow (2), p. 648—part, Iquique, Tarapacá.

Spheniscus meyeri Philippi, Anal. Univ. Chile, 103, p. 670, April, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 171, 1899—Chile; idem (24), p. 87, pl. 38—Chile.

¹Dr. Stresemann (in litt.) confirms the identification.

²Either this or the preceding species was intended by the name *Diomedea chilensis* Molina (Saggio Stor. Nat. Chile, pp. 238, 344, 1782), but the incomplete diagnosis and the absence of a definite locality render its identification impossible.

Spheniscus flavipes Philippi, Anal. Univ. Chile, 103, p. 670, 1899—Chile; idem, Arch. Naturg., 65, (1), p. 172, 1899—Cartajena, south of Valparaiso; idem (24), p. 88, pl. 40—Chile (=juv.).

Range in Chile.—Breeds on islands and on the coast from the Peruvian boundary south to Algarrobo, Valparaiso, spreading in winter south to Valdivia (Corral).¹

Humboldt's Penguin replaces the preceding form in the more northern parts of Chile, its range extending along the Peruvian littoral as far north as 6° S. latitude. Philippi thought to perceive certain differences between Meyen's plate and Chilean specimens, and accordingly proposed to separate the latter under the name of *S. meyeri*. Birds from the two countries in the collection of the American Museum of Natural History, however, do not seem to be distinguishable in any way. *S. flavipes* is clearly based on a young bird.

Philippi found these penguins common all along the coast of Atacama, and in another paper (Zeits. Ges. Naturw., N. F., 7, p. 126) gives a full account of their breeding habits as observed by L. Landbeck on a small island off Algarrobo, south of Valparaiso, which appears to be the most southerly colony of the species on record. The reported nesting of *S. humboldti* on the Isla La Mocha and on certain islands of the Juan Fernandez group, on the other hand, obviously refers to the allied *S. magellanicus*. In winter (May to September), Pässler tells us, Humboldt's Penguin may be seen in large numbers, sometimes in company with *S. magellanicus*, in the Bay of Coronel. Two immature birds from Iquique, listed by Schalow as *S. magellanicus*—we are informed by Dr. Stresemann (in litt.)—prove to belong to *S. humboldti*.

Humboldt's Penguin is evidently but a northern race of *S. magellanicus*. Still I refrain from using trinomials, as both may eventually turn out to be conspecific with the African *S. demersus* (Linnaeus), of which no material is at present available.

330. *Lophortyx californica brunnescens* Ridgway

Lophortyx californicus brunnescens Ridgway, Proc. Biol. Soc. Wash., 2, p. 94, 1884—"Santa Barbara," California, errore.

Lophortyx californica Pässler (1), p. 103—Chile (common); Barros (4), p. 15—Ñilahue, Curicó; C. Reed (4), p. 146—Coquimbo to the Rio Cachapoal; Barros (5), p. 170—Precordillera of Aconcagua; Housse (2), p. 149—San

¹The egg from Tierra del Fuego attributed to this species by Schalow (p. 650) belongs, of course, to *S. magellanicus*.

Bernardo, Santiago; Lonnberg, p. 17—Mas A Tierra and Mas Afuera; Jaffuel and Pirion, p. 112—Marga-Marga, Valparaíso; Swarth, Condor, 29, p. 164, 1927; Barros (9a), p. 38—Coquimbo to Talca (habits).

Range in Chile.—From Coquimbo to Talca, also on the Juan Fernandez Islands. Introduced from the United States.

Material collected.—Coquimbo: Tambillos, two ♂♂, one ♀ ad., July 8.—Colchagua: Baños de Cauquenes, ♂ ad., May 5.

The California Quail, introduced in 1870, has become perfectly acclimatized throughout the central provinces of Chile, where it is now found in large numbers. Its actual range extends from Coquimbo south to Talca. Introduced on the Juan Fernandez Islands in 1912 or 1913 by Captain Wahlbom, it has since become very common on Mas Afuera, while on Mas A Tierra it is not thriving so well.

Chilean specimens agree with the brown-backed, dark-flanked race of the humid coast region of California, which Grinnell (Condor, 33, p. 37, 1931) has shown to be entitled to the name of *L. californica brunnescens*.

331. *Phasianus colchicus colchicus* Linnaeus

Phasianus colchicus Linnaeus, Syst. Nat., 10th ed., 1, p. 158, 1758—"Habitat in Africa, Asia"; Rion, Transcaucasia, accepted as type locality; Lataste, Act. Soc. Scient. Chile, 6, p. LXVII, 1896—Coquimbo; Chauvelet, l. c., 6, p. LXXXV, 1897—Coquimbo.

Range in Chile.—Introduced at Coquimbo.

According to Chauvelet, the Pheasant was introduced from England by C. J. Lambert in 1886 or 1887. Two couples settled in the park of La Compañía, about ten miles from the Bay of Coquimbo. In 1897, they had largely increased in numbers without penetrating, however, more than fifteen miles inland. I have not been able to find any recent record regarding the actual status of the Pheasant in Chile.

An attempt to introduce the Hungarian Partridge (*Perdix perdix perdix* Linn.) in Chile has completely failed.

332. *Nothoprocta perdicaria perdicaria* (Kittlitz)

Crypturus perdicarius Kittlitz, Mém. Ac. Sci. St. Pétersb., sav. étr., 1, livr. 1, p. "192" [=193], pl. 12, 1830—around Valparaíso; Meyen, p. 99—Valparaíso; Kittlitz, Denkwurd. Reise, 1, p. 150—near Valparaíso; Chrostowski, Ann. Zool. Mus. Pol. Hist. Nat., 1, p. 18, 1921—type from Valparaíso in Leningrad Museum.

Nothura punctulata Des Murs in Gay, Hist. fis. pol. Chile, Zool., 1, p. 391, 1847—"provincias centrales de la República" (type in Paris Museum examined); Sclater (2), 1867, p. 331—Chile (ex Des Murs); Waugh and Lataste (1), p. LXXXVIII—Peñaflor, Santiago.

Nothura coquimbica Salvadori, Cat. B. Brit. Mus., 27, p. 554, pl. 15, 1895—Coquimbo (type in British Museum examined).

Nothura perdicaria Darwin, p. 119—part, Valley of "Guasco," Atacama; Fraser (1), p. 115—Chile (habits, egg); Yarrell, p. 53—Chile (egg); Cassin, p. 192—Chile; Germain, p. 312—Santiago (nesting habits); Philippi (12), p. 270—Chile (part); Waugh and Lataste (2), p. CLXXII—San Alfonso (Quillota), Valparaíso.

Rhynchotus perdix Pelzeln (2), p. 113—Chile.

Rhynchotus punctulatus Sclater (2), 1867, p. 339—Chile (ex Des Murs).

Rhynchotus cinerascens (not *Nothura cinerascens* Burmeister) Sclater (2), 1867, pp. 331, 339—Coquimbo.

Nothoprocta perdicaria E. Reed (2), p. 569—Cauquenes, Colchagua; Sharpe, p. 18—Coquimbo; MacFarlane, Ibis, 1887, p. 202—Coquimbo; E. Reed (4), p. 212—Chile (part); Schallow (2), p. 647—Santiago; C. Reed (4), p. 57—La Serena, Coquimbo (food); Fuentes, p. 290—Easter Island; Barros (5), p. 170—Cordillera of Aconcagua; Housse (2), p. 149—San Bernardo, Santiago; Barros (8), p. 263—part, Rio Blanco, Aconcagua (food); Jaffuel and Piron, p. 112—Valley of Marga-Marga, Valparaíso.

Nothoprocta perdicaria perdicaria Wetmore (3), p. 40—Concon, Valparaíso.

Range.—From southern Atacama (Valley of Huasco) to Colchagua (Rio Cachapoal). Introduced on Easter Island.

Material collected.—Coquimbo: Romero, two ♀♀ ad., July 14, 19; Paiguano, ♀ ad., June 18.—Valparaíso: Limache, ♂ ad., ♀ ad., June, 1921. C. S. Reed.—Colchagua: Baños de Cauquenes, four ♂♂ ad., one ♀ ad., one ♀ imm., May 2-8.

Additional material.—Coquimbo: Coquimbo, two ♂♂ ad., June, 1879. Coppinger. Types of *N. coquimbica* Salv. (British Museum).—Santiago: Peñaflor, adult, Feb. 20, 1895. F. Lataste (Paris Museum).—"Chile" (unspecified): two adults, including the type of *N. punctulata*. C. Gay (Paris Museum).

As pointed out by Conover,¹ the Chilean "Perdiz" is divisible into two races: a northern with dingy gray chest, light pinkish buff sides, and whitish median under parts, and a southern with deep clay color ventral surface shading into buff along the middle line.

The type of *C. perdicarius* was shot by Kittlitz (on April 3, 1827) near Valparaíso. Two adults from Limache, Valparaíso, in the Conover Collection are, therefore, essentially topotypical. They agree with a series from Baños del Toro, Colchagua, all being gray-

¹ Auk, 41, pp. 334-335, 1924.

breasted birds with whitish middle line and light pinkish buff flanks. *N. punctulata* Des Murs—based on specimens from the central provinces—evidently refers to the same form, the under parts being described as follows: “estómago y pecho di un gris violáceo, . . . punteado sobre cada pluma con una retondez blanquiza, el vientre . . . de un blanco flavo algo mas oscuro sobre los flancos.” This conclusion is corroborated by a re-examination of the type in the Paris Museum. It is an adult bird presented by Gay (exact locality not stated) and, except for being slightly more washed with buff on the chest, agrees with Lataste’s Peñaflor specimen. The few whitish pectoral spots are a purely individual character and wholly independent of locality.

Salvadori separated three specimens from Coquimbo as *N. coquimbica*, and two of the originals which we have examined in the British Museum are indeed remarkably pale and grayish on the upper parts. Three adults in perfect plumage secured by C. C. Sanborn in that vicinity, however, hardly differ from the central Chilean series, and, as I am unable to perceive the slightest divergency in the coloration of the lower surface, I do not think that Salvadori’s form can be maintained.

The “Perdiz” is widely diffused throughout the plains and foothills of the central provinces. According to Barros, the upper limit of its vertical range is about 6,000 feet. Northward, it extends as far as the valley of Huasco, in southern Atacama, while the Rio Cachapoal seems to mark the southern limit of its distribution.

333. *Nothoprocta perdicaria sanborni* Conover

Nothoprocta perdicaria sanborni Conover, Auk, 41, p. 334, 1924—Máfil, Valdivia.

Nothura perdicaria (not of Kittlitz) Darwin, p. 119—Chile (part); Des Murs (2), p. 392—Chile; Boeck, p. 508—Roble, Valdivia; Philippi (12), p. 270—Chile (part).

Rhynchotus perdicarius Selater (2), 1867, pp. 331, 339—Chile.

Nothoprocta perdicaria E. Reed (4), p. 212—Chile (part); Lane, p. 314—Maquegua (Arauco), Río Bueno (Valdivia), Puerto Varas and Osorno (Llanquihue); Barros (4), p. 15—Nilahue, Curicó; Passler (3), p. 431—Coronel (habits, egg); Barros (8), p. 263—part, Ranquil (Valle de Nilahue). Curicó (food); Bullock (3), p. 126—Nahuelbuta, Malleco; idem (4), p. 194—Angol, Malleco; Barros (12), p. 31—Curicó (breeding habits).

Nothura punctulata (not of Des Murs) Lataste (1), p. CXVI—Ninhue (Itata), Maule.

Range.—Southern Chile, from Curicó to Llanquihue.

Material collected.—Maule: Quirihue (alt. 700 feet), ♀ ad., May 3.—Malleco: Curacautin, ♂ ad., Jan. 8.—Valdivia: Máfil,

three ♀ ♀ (including the type), two ♂ ♂ juv., Feb. 18–26; Ríñihue, ♂ juv., March 8.—Llanquihue: Puerto Montt, ♀ imm., April 15.

Birds from Valdivia and Llanquihue are easily distinguished from *N. p. perdicaria* by the more rufescent barring of the dorsal surface and the deep clay color under parts passing into buff along the middle line, without any gray (or a mere suggestion of it) on the chest.

Specimens from Malleco and Maule form the transition to the northern form, the chest being underlaid with grayish and the flanks not quite so intensely colored. Taken as a whole, they are, however, much nearer to *N. p. sanborni* than to *N. p. perdicaria*.

[*Nothocercus nigrocapillus* (G. R. Gray)—described from “Chile”—has since been ascertained to inhabit the Andes of Bolivia. The genus is not represented in Chile.]

334. *Tinamotis pentlandii* Vigors

Tinamotis pentlandii Vigors, P. Z. S. Lond., 4, “1836,” p. 79, Jan. 16, 1837—“on a high elevation in the Andes,” probably Bolivia; Bridges, l. c., 15, p. 28, 1847—Pass of Tapaquilcha, east of Ascotan, Potosí, Bolivia; Des Murs (2), p. 393—near Santiago (errore); Sclater (4), 1886, p. 404—Huasco, Tarapacá; idem (6), p. 137—Sacaya and “Canchosa,” Tarapacá; Lane, p. 316—Sacaya and “Canchosa” (habits); E. Reed (4), p. 212—“Atacama” and Tarapacá; Schalow (2), p. 647—“Concepción” (1).

Range in Chile.—Puna Zone of the northern provinces, from Tacna to Antofagasta.

Material collected.—Tacna: Choquelimpie (alt. 15,000 feet), ♀ ad., June 23.—Antofagasta: Rio Inacaliri (alt. 12,800 feet), two ♀ ♀ ad., April 25–27.

These specimens agree with others from Argentina.

Pentland's Tinamou is found only in the three northern provinces at elevations of 12,000 feet and upwards. T. Bridges met with it on the Pass of Tapaquilcha, on Bolivian territory, just beyond the Chilean border, and Lane states that it is not uncommon in the Andes of Tarapacá.

Outside of Chile, it is distributed over northwestern Argentina (Jujuy, Tucumán, Los Andes), Bolivia, and southern Peru.

[*Calopezus elegans* (d'Orb. and Is. Geoffr.) is listed by Gray (List Spec. Bds. Brit. Mus., 5, Gallinae, p. 106, 1848) as having been collected in Chile by T. Bridges. He was doubtless misled by

wrongly labeled specimens, since Bridges himself (P. Z. S. Lond., 15, p. 28, 1847) states that he met with this species only in the vicinity of Mendoza, and never saw it on the Chilean side of the Andes.]

335. *Pterocnemia tarapacensis tarapacensis* Chubb

Pterocnemia tarapacensis Chubb, Bull. Brit. Orn. Cl., 33, p. 79, 1913—"Canchosa" [= Cancosa], Tarapacá.

Rhea darwini (not of Gould) Philippi, Ornith., 4, p. 159—Atacama; Sclater (5), 1890, p. 412—Tarapacá; idem (6), 1891, p. 137—"Canchosa," Tarapacá; E. Reed (4), p. 213—part, Tarapacá; Lane, p. 316—Cancosa, Tarapacá.

Range in Chile.—Puna Zone of Atacama, Antofagasta, and Tarapacá.

This rhea, whose distinctness from the Patagonian *P. pennata* (d'Orbigny) has but recently been recognized, was first recorded by Philippi from the highlands of Atacama. Lane, afterwards, procured specimens in the Cordillera of Tarapacá, where it is stated to be not uncommon. Mr. Sanborn saw it in the vicinity of Silala, near the Chilean-Bolivian boundary, in Antofagasta.

The principal character that separates *P. tarapacensis* from its Patagonian ally is the smaller number of scutes (eight to ten instead of sixteen to eighteen) on the lower portion of the tarsus; besides, the dorsal surface is much more brownish, with fewer, if any, white feathers interspersed. The late C. Chubb distinguished *P. t. garleppi* from Esperanza, Oruro, Bolivia, on account of isabelline-buff (not ashy-gray) head and neck, and grayish brown instead of rufous brown back. This form has lately been recorded by Dabbene¹ from northwestern Argentina (Pasto Ventura, Cerro Nevada), while Berlepsch and Stolzmann² listed s. n. *R. darwini* specimens from Titari, Puno, in southern Peru. A series from Esperanza and Sajama, Bolivia, in the Berlepsch Collection, shows considerable variation in color, and while I have not been able to compare them with birds from Tarapacá, it is quite possible that the rheas of the Andean highlands, from southern Peru to Chile and northwestern Argentina, may turn out to be referable to a single form.

¹El Hornero, 2, p. 84, 1920.

²Ornis, 13, p. 180, 1906.

ORNITHOLOGICAL BIBLIOGRAPHY OF CHILE

Ornithological literature on Chile is unusually scattered, and the compilation of this bibliography proved to be a difficult task. Not one of the many libraries consulted, either in America or in Europe, possesses a complete set of the "Anales de la Universidad de Chile" or of the "Revista Chilena de Historia Natural." Thanks to the obliging cooperation of the Zoological Society of London and various correspondents, among whom Dr. C. W. Richmond (Washington), Dr. Joseph Grinnell (Berkeley), and Dr. H. Balss (Munich) should be specifically mentioned, I have, however, been able to check most of the numerous ornithological papers published in these serials, excepting a few, of which transcriptions were available.

The bibliography purports to contain the title of every publication dealing with Chilean birds from a scientific point of view up to December 31, 1930. All faunal papers and those containing original descriptions are listed, including certain general works where important data on Chilean birds may be found. Catalogues of collections, unless restricted to Chile, have been purposely omitted as well as papers of a popular or purely economic nature.

ALBERT, F.

1. Contribuciones al Estudio de [las] Aves Chilenas. Anal. Univ. Chile, **100**, pp. 301-325, 593-627, 863-895, 1898; **101**, pp. 23-54, 229-264, 497-520, 655-679, 909-941, 1898; **103**, pp. 209-255, 445-461, 579-591, 677-690, 829-847, 1899; **104**, pp. 95-134, 267-283, 987-1008, 1899; **106**, pp. 579-591, 1900; **108**, pp. 193-237, 243-306, 547-564, 1901. [Also issued separately and repaged (pp. I-VIII, 1-580) in thirteen parts (entregas), each with a separate cover. Pp. I-VIII, and pp. 1-343 (Entregas 1-9) form "Tomo Primero," provided with title page "Contribuciones al Estudio de las Aves Chilenas. Tomo Primero," and subtitle "Contribuciones al Estudio de las Aves Chilenas, por Federico Albert. Publicado en los "Anales de la Universidad" tomos CI-CIII. Tomo Primero. Santiago de Chile. Imprenta Cervantes. Bandera 46.-1899." The remaining parts (Entregas 10-13) were apparently intended to form a second volume, which was left unfinished.]

This extensive paper treats of various families regardless of systematic order, but, beyond good descriptions of the species, gives very little original information. Many of the author's identifications are utterly wrong, and numerous names placed in synonymy pertain to quite distinct species.

2. Estudios sobre la Ornitología Chilena. Rev. Chil. Hist. Nat., **2**, pp. 39-42, 63-64, 94-96, 139-143, 1898; **3**, pp. 25-28, 1899; **4**, p. 7, pl. 1, 1900; **6**, pp. 52-53, 77-88, 1902.

Notes on the Chilean species of Parrots, Kingfishers, Woodpeckers, Tapacolas, Humming-birds, Goatsuckers, Swallows, Spoonbills, Pipits, Orioles, Boobies, and Tyrants.

3. Die chilenischen Buteos. Zool. Jahrb., Suppl., **5** [=Fauna Chilensis, **2**], Heft 3, pp. 643-650, May 2, 1902.

Distinguishes three species: *B. obsoletus*, *B. albicaudatus*, and *B. erythronotus*, whose plumages and variations are fully described.

4. Les Buses (*Buteo*) du Chili. *Ornis*, 11, No. 4, pp. 437-445, June, 1902.

Slightly modified French translation of the preceding paper. *B. obsoletus* is here designated as *B. swainsoni*.

ALLEN, J. A.

List of the Birds Collected in Bolivia by Dr. H. H. Rusby, with Field Notes by the Collector. *Bull. Amer. Mus. Nat. Hist.*, 2, pp. 72-112, March 22, 1889.

Included in this paper are various birds supposed to have been collected at "Valparaiso." Owing to the loss or accidental transposition of labels, however, the localities have been mixed up, and, as a result, species which had doubtless been taken in Bolivia are credited to "Valparaiso," while others of undoubted Chilean origin are listed from Bolivian localities. Two supposed novelties, *Enicornis striata* [= *Upucerthia ruficauda*], from "Chile (Valparaiso?)," and *Leptasthenura fuscescens* [= *L. a. aegithaloides*], from "Falls of the Madeira," Bolivia, are described.

ANGELINI, G.

1. *Aphrastura fulva*. Nuova specie di Passeraceo appartenente ai Dendrocolaptidi Sinallaxini. *Boll. Soc. Zool. Ital.*, 2nd ser., 6, fasc. 7-8, pp. 227-230, 1905.

The type was collected by Admiral de Amezaga at Ancud, Chiloé Island.

2. Qualche osservazione sopra due Uccelli Neotropicali: *Aphrastura fulva* e *Creciscus melanophaeus*. *L. c.*, 2nd ser., 7, fasc. 1-3, pp. 96-99, 1906.

On pp. 96-98, further notes on *A. fulva*.

AUDUBON, J. J.

1. A Synopsis of the Birds of North America. 1 vol. in 8vo, pp. xii + 359, Edinburgh, 1839.

Carduelis stanleyi, from "Upper California," described as a new species (p. 118), turned out to be the same as *Spinus barbatus*. The type was almost certainly collected by Townsend at Valparaiso, Chile.

2. Ornithological Biography, or an Account of the Habits of the Birds of the United States of America, accompanied by Descriptions of the Objects represented in the work entitled The Birds of America . . . 5, pp. XXXIX + 664, Edinburgh, 1839.

On p. 312, *Fringilla mormoni*, from "Upper California," is described as new [= *Zonotrichia capensis chilensis*].

BAIRD, S. F.

Review of American Birds in the Museum of the Smithsonian Institution. Part 1, 8vo, pp. vi + 478, Washington, 1864-1872.

Progne furcata, from "Chile," is described as a new species (p. 278).

BARROS, R.

1. La Perdiz Chilena. Protección i incremento de los recursos de caza de pluma. *Boletín de Bosques, Pesca i Caza*, Santiago, 2, pp. 554-558, 574-584, 1914.

2. Acclimatación del Gorrión en Chile. *Anal. Zool. Aplic.*, 4, pp. 8-15, pl. 1, 1917.

Distribution of *Passer domesticus* in Chile.

3. La Rara (*Phytotoma rara* Mol.). *L. c.*, 6, pp. 1-16, pl. 2, 1919.

4. Aves del Valle de Nilahue, Curicó. *Rev. Chil. Hist. Nat.*, 23, pp. 12-17, 1919; 24, pp. 43-49, 139-152, 1920.

Carefully annotated list of eighty-one species.

5. Aves de la Cordillera de Aconcagua. *L. c.*, 25, pp. 167-192, 1921.

This important paper contains notes on eighty-nine species, and adds considerably to our knowledge of the vertical distribution of Chilean birds.

6. Notas sobre algunos pájaros Chilenos. L. c., 28, pp. 31-35, 1924.
Notes on the occurrence of nine species in various localities of central Chile.
7. Observaciones ornitológicas relacionadas con la agricultura y la caza. L. c., 29, pp. 238-279, 1925.
8. Notas ornitológicas. L. c., 30, pp. 137-143, 1926.
Further records of noteworthy birds from Río Blanco, Aconcagua, and Nihue, Curicó.
9. Apuntes para el estudio de la alimentación de las aves de Chile. L. c., 31, pp. 262-265, 1927.
- 9a. Segundas notas ornitológicas. L. c., 32, pp. 36-42, 1928.
- 9b. Sobre algunas aves observadas en la Costa de Curicó. L. c., pp. 160-163, 1928.
10. Nuevas observaciones sobre aves de la Cordillera de Aconcagua. L. c., 33, pp. 355-364, 1929.
11. Sobre algunas aves de la Alta Cordillera de Mendoza. L. c., 34, pp. 312-330, 1930.
Notes on eight species from the Chilean side of the Andes (pp. 314-315).
12. Esclarecimiento de la reproducción de la perdiz chilena. L. c., 34, pp. 31-37, 1930.
Breeding habits of *Nothoprocta perdicaria*.

BERLEPSCH, H. VON and LEVERKUHN, P.

- Studien über einige sudamerikanische Vögel nebst Beschreibungen neuer Arten. Ornith., 6, Heft 1, pp. 1-32, 1890.
Remarks on *Anthus calcaratus* [= *A. correndera calamarcae*] collected by Professor Behn at Calama, Prov. Antofagasta.

BIBRA, [ERNST] FREIHERR VON

- Beiträge zur Naturgeschichte von Chile. Denks. math.-naturw. Cl. Akad. Wiss. Wien, 5, Abt. 2, pp. 73-142, pl. 4-8, 1853. Vogel: pp. 128-132. [Reprinted in Journ. Ornith., 3, pp. 52-58, 1855.]
Results of six months' traveling in central and southern Chile (Valparaíso and vicinity; Santiago; Cordillera of Santiago; Bay of Corral in Valdivia). The birds were determined by Reichenbach. Two new species are described, and in addition there are several nomina nuda.

BLAAUW, F. E.

1. Across South America to Tierra del Fuego and back through the Smith-Channel. Notes Leyden Mus., 35, pp. 1-74, pl. 1, 2, December, 1912.
Many scattered notes on the birds seen during a journey across the Andes from Puente del Inca to Santiago and on various excursions in Valdivia and Llanquihue (pp. 9-38).
2. On Birds and Their Surroundings between Puerto Varas and Puerto Montt. Avic. Mag., 3rd ser., 4, pp. 192-199, May, 1913.
3. Field-notes on Some of the Water Fowl of the Argentine Republic, Chile, and Tierra del Fuego. Ibis, 10th ser., 4, pp. 478-492, pl. 14, 1916.
Deals with the ducks, geese, and swans observed on the trip described in one of the preceding papers (1).
4. The Steamer Duck. Ibis, 10th ser., 5, pp. 274-276, 1917.
5. On the type specimen of *Chloephaga inornata* King in the British Museum, and some further notes. Ibis, 11th ser., 2, pp. 497-498, pl. 13, 1920.

BOECK, E. VON

Vorläufige Bemerkungen über die Ornithologie der Provinz Valdivia, in der Republik Chile. Naumannia, pp. 494-513, 1855.

Notes from Valdivia and Chiloé Island.

BOLLAERT, W.

Observations on the Geography of Southern Peru, including Survey of the Province of Tarapacá, and Route to Chile by the Coast of the Desert of Atacama. Journ. Roy. Geogr. Soc. Lond., 21, pp. 99-130, map, 1851.

On p. 120, the author mentions "flamingos with red breasts" found on the Lake of Paríñas, n. of Maucab, s. w. of Volcan of Isllaga.

BONAPARTE, C. L.

1. Conspectus Generum Avium. 2 vols. in 8vo, Leyden, 1850-57.

The following Chilean birds are described as new: *Thryothorus eidouxii* (1, p. 221), from "Brazil" [= Talcahuano, Concepción]; *Chrysomitris marginalis* (1, p. 517); *Nycticorax obscurus* (2, p. 141); *Stercorarius antarcticus* b. *chilensis* (2, p. 207).

2. Notes sur les collections rapportées en 1853, par M. A. Delattre, de son voyage en Californie et dans le Nicaragua. Compt. Rend. Ac. Sci. Paris, 37, pp. 806-810, 827-835, 913-925, 1853; 38, pp. 1-11, 53-66, 258-266, 378-389, 533-542, 650-665, 1854. [Reprinted with corrections and additions under the title "Notes Ornithologiques sur les collections rapportées en 1853 par M. A. Delattre et Classification Parallélique des Passereaux Chanteurs." 4to, pp. 1-95, Paris, 1854.]

Although the paper purports to deal only with birds collected in California and Nicaragua, it results from the text that Delattre also visited northern Chile, for (38, p. 660, repr., p. 90) *Lucifer vesper* and *Calothorax yarelli* (sic) are recorded from "Arica, dans le Pérou," and "Cobija, dans la Bolivie," respectively.

In 37, p. 915 (repr., p. 15) a supposedly new Siskin [*Chrysomitris*] *icteroides*, "Schimper," from Chile, in the Strasbourg Museum, is mentioned, hardly more than a nomen nudum.

3. Notes sur les Larides. Rev. Mag. Zool., 2nd ser., 7, pp. 12-21, 1855.

Larus verreauxi, from Chile (p. 16), is described as new.

BRANDT, J. F.

Observations sur plusieurs espèces nouvelles du genre Carbo ou Phalacrocorax, qui se trouvent dans le Muséum de l'Académie des Sciences de St. Pétersbourg. Bull. Scient. Ac. Imp. Sci. St. Pétersbourg, 3, No. 4, col. 53-57, Nov. 16, 1837.

Carbo albigula, from Chile (col. 57), is described as new.

BRIDGES, T.

[Notes on various Birds and Mammals from Chile.] Proc. Zool. Soc. Lond., 9, "1841," pp. 93-95, March, 1842.

The specimens were collected . . . in the Andes of Chile, lat. 34°-35°. See also L. FRASER.

BRODKORB, P.

Geographic Variation in *Thinocorus orbignyianus* Geoffroy and Lesson. Auk, 45, pp. 499-500, 1928.

Birds from Chile are referred to *T. o. orbignyianus*.

BROS, R.

Observaciones sobre el Pato tripoca (*Erismatura vittata* Ph.) y el Pato colorado (*Querquedula cyanoptera* Vieill.) en el Valle de Marga-Marga. Rev. Chil. Hist. Nat., 33, pp. 379-382, 1929.

BRUCH, P.

Monographische Uebersicht der Gattung Larus. Journ. Ornith., 1, pp. 96-108, 1853.

(*hroicocephalus Küllitzii*, from southern Chile, is described as new (p. 104).

BULLOCK, D. S.

1. Sobre algunos nidos de Aves Chilenas. El Hornero, 3, No. 1, pp. 90-94, 1923.

2. Hudsonian Curlew and Greater Yellow-legs at Penco, Chile. Auk, 45, p. 501, 1928.

3. Aves de los pinares de Nahuelbuta. Rev. Chil. Hist. Nat., 33, pp. 121-127, 1929.

Notes on thirty-seven species.

4. Aves observadas en los alrededores de Angol. Rev. Chil. Hist. Nat., 33, pp. 171-211, 1929.

Fully annotated list of ninety-nine species.

5. Birds observed in the neighborhood of Angol (Chile). The Oologists' Record, 10, pp. 40-46, 71-72, 87-94, 1930; 11, pp. 17-24, 1931.

English translation of the preceding pages.

BURMEISTER, H.

Systematisches Verzeichnis der in den La Plata-Staaten beobachteten Vogelarten. Journ. Ornith., 8, pp. 241-268, 1860.

Cillurus patagonicus [= *Cinclodes o. oustaleti*] is incidentally recorded from Caldera, coast of Atacama.

CABANIS, J.

[Zwei neue Charadrius-Arten des Berliner Museum.] Journ. Ornith., 20, p. 158, 1872.

Aegialitis occidentalis is described as new. No locality is stated here, but Chile is given in a later communication (Journ. Ornith., 32, p. vi, 1885).

CABANIS, J. and HEINE, F.

Museum Heineanum. Verzeichnis der ornithologischen Sammlung des Oberamtmann Ferdinand Heine auf Gut St. Burchard vor Halberstadt. 2. Theil, die Schreibvogel enthaltend. 8vo, pp. 175, Halberstadt, 1859-60.

A supposed new species, *Cillurus minor*, from Araucana, is characterized, and a new name, *Henicornis gouldi*, is proposed in a rather obscure way for what proves to be a young bird of *Chilia melanura* (p. 24).

CASSIN, J.

Birds. In The U. S. Naval Astronomical Expedition to the Southern Hemisphere, during the years 1849-50-51-52. Lieut. J. M. Gilliss, Superintendent. 2, pp. 172-206, pls. 14-28, 4to, Washington, 1855.

An important contribution to Chilean ornithology, with beautiful illustrations of the more striking representatives of the bird life.

CASTILLO, L.

Migraciones observadas en la Fauna i Flora de Chile. Boletin de Bosques, Pesca i Caza, Santiago, 2, pp. 224-253, Oct., 1913.

CHAPMAN, F. M.

1. Descriptions of Proposed New Birds from Central and South America. Bull. Amer. Mus. Nat. Hist., 34, pp. 363-388, May 27, 1915.

In a chapter entitled "Remarks on Certain South American Forms of the Genus *Cerchneis*" (pp. 372-382), the two Chilean races, *C. sparverius cinnamomina* and *C. s. fernandensis* (n. subsp.), from Mas A Tierra, are discussed.

2. Descriptions of Proposed New Birds from Peru, Bolivia, Argentina, and Chile. Bull. Amer. Mus. Nat. Hist., 41, pp. 323-333, Sept. 1, 1919.

Microsittace ferruginea minor, from Corral, Valdivia, and *Upucerthia dume-toria hallinani*, from Tofo, sixty miles north of Coquimbo, Chile, are described as new.

3. Descriptions of Proposed New Birds from Venezuela, Colombia, Ecuador, Peru, and Chile. Amer. Mus. Novit., No. 96, pp. 1-12, Nov. 19, 1923.

Melanodera xanthogramma barrosi, from Rio Blanco, Aconcagua, Chile, is described as a new race.

4. An Ornithological Reconnaissance in Southern Chile. Bull. Brit. Orn. Cl., 46, pp. 119-120, 1926.

CHAUVELET, J.

L'acclimatation du Faisan à Coquimbo. Act. Soc. Sci. Chili, 6, livr. 4-5, "1896," p. LXXXV, July 10, 1897.

CHROSTOWSKI, T.

Sur les types d'oiseaux néotropicaux du Musée Zoologique de l'Académie des Sciences de Pétrougrade. Ann. Zool. Mus. Pol. Hist. Nat., 1, pp. 9-30, Sept. 30, 1921.

On pp. 13-21, a critical list of the type specimens of the nineteen Chilean species described by F. H. von Kittlitz is given.

CHUBB, C.

1. [Exhibition and description of a new species of bird (*Upucerthia tamucoensis*) from southern Chili.] Bull. Brit. Orn. Cl., 27, p. 101, July 13, 1911.

Upucerthia tamucoensis, from "Tamuco," southern Chile, is described as new.

2. [Exhibition and description of two new forms of Rhea (*Pterocnemia tarapacensis* and *P. t. garleppi*), with a key to the genera and species of Rheas.] Bull. Brit. Orn. Cl., 33, pp. 79-81, Dec. 23, 1913.

Pterocnemia tarapacensis, from Cancosa, Tarapacá, is described as a new species.

CONOVER, H. B.

A new subspecies of *Nothoprocta* from Chile. Auk, 41, pp. 334-336, 1924.

Nothoprocta perdicaria sanborni, from Máfil, Valdivia, is characterized as new.

COSTES, N.

Columbideas del Valle de Marga-Marga. Rev. Chil. Hist. Nat., 21, pp. 161-166, 1917.

CUNNINGHAM, R. O.

1. [Letter on the Ornithology of the Straits of Magellan and Chiloé Island.] Ibis, new series, 4, pp. 486-495, 1868.

2. Notes on the Natural History of the Strait of Magellan and West Coast of Patagonia made during the Voyage of H. M. S. "Nassau" in the years 1866, '67, '68, and '69. With maps and illustrations. 8vo, pp. IX+517, Edinburgh, 1871.

DABBENE, R.

Los Picaflares de Chile. Rev. Chil. Hist. Nat., 33, pp. 489-503, 1930.

A critical revision of the humming-birds described by Molina, with key, descriptions, and principal synonymy.

DARWIN, C.

The Zoology of the Voyage of the Beagle, under the command of Capt. Fitzroy, during the years 1832 to 1836. Part III. Birds, described by John

Gould, with A Notice of their Habits and Ranges, by Charles Darwin, and with an Anatomical Appendix, by T. C. Eyton. 1 vol. in 4to, pp. ii + 156, pl. 50, London, 1838-41.

Contains important notes on the habits and distribution of many species in the southern and central parts of Chile, between Chiloé Island and Copiapó.

DEAUTIER, E. and STEULLET, A.

Las Aves descritas por Molina. Rev. Chil. Hist. Nat., 33, pp. 473-482, 1930.

A critical review of, and an attempt to identify, the thirty-three species of birds described by Molina.

DES MURS, O.

1. Iconographie Ornithologique. Nouveau Recueil général de planches peintes d'Oiseaux, pour servir de suite et de complément aux Planches Enluminées de Buffon . . . et aux Planches coloriées de M M. Temminck et Laugier. 11 pp., 146 ll., 72 pll., 1 vol. in demy folio, Paris, 1845-49.

Three Chilean species are described and figured, viz. *Merganetta chilensis* (pl. 5), *Ulula fasciata* nov. sp. (pl. 37), and *Sylviorthorhynchus maluroides* (*desmurtii*) (pl. 45). A fourth species, *Diglossa brunneiventris* (pl. 43), is erroneously credited to Chile.

2. Aves: In Claudio Gay, Historia Física y Política de Chile. Zoología. 1, pp. 183-496, 1847; 8, pp. 474, 477-486, 1854; Atlas, 2, fourteen plates on birds, 8vo and demy folio, Paris and Santiago.

The ornithology of this comprehensive work, dealing with the physical and political history of Chile, was written by O. Des Murs (according to statements on pp. 11 and 183, 1), while Gay merely contributed field-notes. It is an exceedingly poor compilation with very little original information. Many species are admitted to the Chilean fauna without good reasons, and others are wrongly identified. The date of publication of the plates is open to question (see Zimmer, Field Mus. Nat. Hist., Zool. Ser., 16, Part 1, pp. 237-238, 1926).

ESCHSCHOLTZ, F.

Zoologischer Atlas, enthaltend Abbildungen und Beschreibungen neuer Thierarten, während des Flottcapitains von Kotzebue zweiter Reise um die Welt, auf der Russisch-Kaiserlichen KriegsschluPP Predpriatie in den Jahren 1828-1826 beobachtet von Dr. Friedrich Eschscholtz. Folio. Heft 1: pp. i-iv, 1-17, pll. 1-5, 1829; Heft 2: pp. 1-18, pll. 6-10, 1829; Heft 3: pp. 1-18, pll. 11-15, 1829; Heft 4: pp. 1-19, pll. 16-20, 1831; Heft 5: pp. i-viii, 1-28, pll. 21-25, frontispiece, 1833, Berlin.

The only bird of interest within the scope of our paper is *Thinocorus rumicivorus* (Heft 1, p. 2, pl. 2), from the lowlands near the seacoast in the Bay of Concepción.

EYDOUX, F. and GERVAIS, P.

1. Voyage autour du Monde de la corvette La Favorite. Oiseaux; Mag. Zool., 6, cl. 2, pp. 1-37, pll. 62-76, 1836.

The following Chilean species are described and figured: *Tyrannus gutturalis* (n. sp.), Chile and Coquimbo (p. 6, pl. 63); *Anthus variegatus* (p. 12, pl. 67); *Fringilla diuca*, Valparaíso (p. 18, pl. 69); *Passerina guttata* (p. 22, pl. 70); *Emberiza luctuosa* (p. 24, pl. 67). Besides, there is a short note on the previously described *Fringilla gayi*, stating that the specimens examined are from Valparaíso (p. 20), and a description of *Synallaxis aegithaloides* (p. 32).

2. Sur quelques particularités anatomiques du *Phytotoma rara* de Molina. Mag. Zool., 8, cl. 2, pl. 86, pp. 1-3, 1838.

Some notes on the anatomy.

3. Voyage autour du Monde par les Mers de l'Inde et de Chine exécuté sur la corvette de l'état La Favorite pendant les années 1830, 1831, et 1832 sous le

commandement de M. Laplace. Tome 5. Zoologie. 2^e Partie. Oiseaux. pp. 29-64 quater, pl. 10-25, Paris, 1839.

The ornithological portion, as given above, is merely a reprint of the two preceding papers.

EYDOUX, [F.] and SOULEYET, [F. L. A.]

Voyage autour du Monde exécuté pendant les années 1836 et 1837 sur la corvette La Bonite commandée par M. Vaillant. Zoologie par M. M. Eydoux et Souleyet. Tome 1. Oiseaux. pp. 69-132, Paris, 1841, 8vo.

Further anatomical observations on *Phylotoma rara* are given on pp. 92-97.

EYTON, T. C.

1. A Monograph on the Anatidae, or Duck Tribe. 1 vol. in 4to, pp. [x+] 180 [+vi], pl. 24, London, 1838.

Erismatura ferruginea, from Chili, is described as new (p. 170), *Marca chilensis*, from Chiloé Island, is figured (pl. 21).

2. Descriptions of two new Species of *Synalaxis* [sic]. Contrib. to Ornith., 4, Part 4, p. 159, pl. 81, Oct., 1851.

Synalaxis modestus, from "Bolivia" [= Antofagasta, Chile], is described and figured (pl. 81, fig. 2).

FRASER, L.

1. [On the Collection of Birds brought to England by Mr. Bridges.] Proc. Zool. Soc. Lond., 11, pp. 108-121, Dec., 1843.

A catalogue of the birds collected by Bridges in Chile with notes by the collector relating to their habits and ranges. Notes are added on a few species found in the vicinity of Mendoza, Argentina.

2. [On Birds from Chile, and description of *Leptopus Mitchelli*.] Proc. Zool. Soc. Lond., 12, "1844," p. 157, Feb., 1845.

Additions to the preceding paper.

3. [Exhibition of two Birds from Chile.] Proc. Zool. Soc. Lond., 13, p. 1, April, 1845.

Sterna inca and *Ardeola exilis* collected by T. Bridges.

4. Descriptions of three new Species of Birds in the Society's Collection. L. c., 13, p. 16, April, 1845.

Larus bridgesii, from Valparaiso, described as new.

FRAUENFELD, G. RITTER VON

Ueber den Aufenthalt in Valparaiso und Ausflüge daselbst, während der Weltfahrt der k. k. Fregatte Novara. Verhandl. Zool. Bot. Gesells. Wien, 10, Abhandl., pp. 635-640, 1860.

Contains numerous notes on the birds observed near Valparaiso, Santiago, and Lake Aculeo.

FUENTES, F.

Contribucion al Estudio de la Fauna de la Isla de Pascua. Bol. Mus. Nac. Chile, 7, pp. 285-318, 1914.

Besides sea-birds, two species of land birds: *Nothoprocta perdicaria* (p. 290) and "*Leistes superciliaris*" (p. 291) [= *Trupialis m. militaris*], both introduced from Chile, are found on Easter Island.

GARNOT, P.

Description de quelques espèces nouvelles d'oiseaux. In L. I. Duperrey, Voyage autour du monde, exécuté sur la Corvette . . . La Coquille, pendant les années 1822, 1823, 1824 et 1825. Zoologie, par Lesson et Garnot. 1, Part 2, livr. 13, pp. 588-600, Nov. 21, 1829; livr. 14, pp. 601-613, Jun. 9, 1830, Paris.

Three Chilean species are described as new. *Certhia chiliensis*, from "Talcaguana" [=Talcaguano] (p. 599); *Podiceps americanus* (p. 599); and *Podiceps chiliensis* (p. 601), both from Concepción.

GAY, C.

See O. DES MURS (2).

GERMAIN, F.

Notes upon the Mode and Place of Nidification of some of the Birds of Chili. Proc. Boston Soc. Nat. Hist., 7, pp. 308-316, August, 1860.

Notes on sixty-nine species found in the vicinity of Santiago.

GERVAIS, P.

Moineau de Gay. *Fringilla Gayi* Eyndoux et Gervais. Mag. Zool., 4, cl. 2, pl. 23, 1834.

Described, with colored figure, as a new species from "Chile." [See also F. EYDOUX.]

GIGOUX, E. E.

Aves que nos visitan; Rev. Chil. Hist. Nat., 28, pp. 83-87, 1924.

Notes on the birds of Caldera, Prov. Atacama.

- a. Contribución Ornitológica. Aves Chilenas de las Familias Psittacidae, Picidae, Alcedinidae, Caprimulgidae, Trochilidae, Pterotochidae, Bubonidae, Tytonidae y Cuculidae, y especies que huy en la provincia de Atacama. Bol. Mus. Nac. Santiago de Chile, 13, pp. 37-49, 1930.

GIGOUX, E. E. and LOOSER, G.

Los tipos de aves conservados en el Museo Nacional de Historia Natural de Santiago. Bol. Mus. Nac. Santiago de Chile, 13, pp. 5-33, 1930.

A critical list of the types of birds described by Philippi, Landbeck, and others, as far as they still exist in the collection of the National Museum at Santiago.

GOULD, J.

1. [Exhibition of Birds, allied to the European Wren, with characters of new Species.] Proc. Zool. Soc. Lond., 4, "1836," pp. 88-90, Feb., 1837.

Scytalopus fuscus, from Straits of Magellan and Chili, is described as new.

2. [Exhibition of the Fissirostral Birds from Mr. Darwin's Collection, and characters of the New Species.] L. c., 5, "1837," p. 22, Nov. 21, 1837.

Among other birds, *Caprimulgus bifasciatus*, locality not stated, is characterized as new.

3. [Characters of a new Species and Genus of Anatidae.] L. c., 9, "1841," pp. 95-96, March, 1842.

Meryanella armata (nov. gen. et sp.), from the Andes of Chile, is described.

4. Drafts for an Arrangement of the Trochilidae, with descriptions of some new Species. L. c., 7, pp. 7-11, March 29, 1847.

Oreotrochilus leucopleurus (p. 10), from the Chilean Cordilleras, is described as new.

5. On a supposed new Species of Humming-bird from the Juan-Fernandez Group of Islands. Ann. Mag. Nat. Hist., 4th ser., 6, p. 406, 1870.

Eustephanus leyboldi, from Mas Afuera, is characterized as new.

GRAY, G. R.

The Genera of Birds: comprising their generic characters, a notice of the habits of each genus, and an extensive list of species referred to their several genera. Illustrated by D. W. Mitchell. Imp. 4to, 1, pp. xvi + 300, pl. 82 + 57, London, 1844-45.

Enicornis melanura, locality not stated, is described and figured (p. 133, pl. 41).

GRAY, J. E.

Description of some Birds discovered by Edward Bloxam, Esq., during the Voyage of Capt. Lord Byron, R. N., now in the British Museum. Zool. Misc., No. 1, pp. 11-12, 1831.

Two species, *Sylvia Bloxami* and *Psittacus (Aratinga) Byroni*, from Chile, are described as new.

GRIFFITH, E.

The Animal Kingdom arranged in conformity with its organization, by the Baron Cuvier. The Class Aves arranged by the Baron Cuvier, with specific description by Edward Griffith and Edward Pidgeon, the additional species inserted in the text of Cuvier by John Edward Gray. 3 vols., London, 1829.

On p. 42, 2, "Byron's Golden Crested Wren" from Chile is described, with *Regulus byronensis* printed at the bottom of the opposite plate. It appears that this name, a synonym of *Tachuris rubrigastra*, should be credited to Pidgeon.

D'HAMONVILLE, BARON

[Sobre la Strix perlata.] Act. Soc. Sci. Chili, 6, livr. 1, pp. xxviii-xxx, 1896.

The eggs of the Chilean Barn Owl are decidedly larger than those of the European form.

HARTING, J. E.

On the Lapwing of Chili. Proc. Zool. Soc. Lond., pp. 449-452, 1874.

Vanellus occidentalis, from Chile and Patagonia, is described as new.

HARTLAUB, P. [=G.]

1. Sur une nouvelle espèce de Colombe de Chile. Rev. Mag. Zool., 2nd ser., 3, p. 74, 1851.

Zenaida innotata, from Chile, described as new [= *Melriopelia m. melanoptera*].

2. Descriptions de quelques nouvelles espèces d'oiseaux. Rev. Mag. Zool., 2nd ser., 4, pp. 3-7, 1852.

Picus kaupii, from Chile, is described as new.

3. Bericht über eine Sendung von Vögeln, gesammelt um Valdivia im südlichsten Chile durch Dr. Philippi. Naumannia, 3, pp. 207-222, 1853.

Annotated list of fifty species, of which *Ochthoeca chilensis* [= *Muscisaxicola macdoniana mentalis*], *Crithagra flavospectularis* [= *Spinus barbatus*], and *Scolopax spectabilis* [= *Capilla stricklandi*] are described as new. Appended is a nominal list of two hundred species supposed to occur in Chile.

HELLMAYR, C. F.

1. Critical Notes on the Types of Little-Known Species of Neotropical Birds.—Part III. Nov. Zool., 21, pp. 158-179, 1914.

Notes on *Leptasthenura fuscescens*, which is shown to be the same as *L. a. aegithaloides*, and *Cinclodes molitor*, whose identity with *C. p. rupestris* is demonstrated (pp. 175-176).

2. New Birds from Chile. Field Mus. Nat. Hist., Zool. Ser., 12, pp. 71-75, April 19, 1924.

Descriptions of four new races belonging to the genera *Scelorchilus*, *Geositta*, *Muscisaxicola*, and *Troglodytes*.

3. Catalogue of the Birds of the Americas and the adjacent Islands in Field Museum of Natural History. Field Mus. Nat. Hist., Zool. Ser., 13, Part 4, pp. iv + 390, 1925.

Besides numerous records of other Chilean species, the following are described as new: *Chilia melanura atacamae* (p. 53), from Domeyko, Atacama; *Leptasthenura aegithaloides griseescens* (p. 61), from Gatico, Antofagasta; *Asthenes modesta australis* (p. 138), from Baños del Toro, Coquimbo; *Asthenes humicola polysticta* (p. 144), from Gualpencillo, Concepción.

4. [Same title.] Part 5, pp. vi + 517, 1927.

Three Chilean races are characterized as new: *Agriornis montana intermedius* (p. 5), from Putre, Tacna; *Musisaxicola rufiventer pallidiceps* (p. 21), from twenty miles east of San Pedro, Antofagasta; *Elainea albriceps chilensis* (p. 413), from Curacautin, Malleco.

See also A. MÉNÉGAUX.

HOUSSE, R.

1. Apuntes sobre las aves de la isla La Mocha. Rev. Chil. Hist. Nat., 28, pp. 47-54, 1924.
2. Avifauna de San Bernardo y sus alrededores. L. c., 29, pp. 141-150, 1925.
3. Adición a los "Apuntes sobre las aves de la isla La Mocha." L. c., 29, pp. 225-227, 1925.
4. El Aguila de Chile (*Geranoetus melanoleucus*, Vieillot). L. c., 30, pp. 113-131, 1926.
5. Anotaciones sobre el Gorrión. L. c., 33, pp. 107-120, 1929.
Introduction and life-history of the English Sparrow in Chile.
6. Ensayo de Estudio ornitológico sobre Aguiluchos y Peucos (*Buteo erythronotus* y *Buteo unicinctus* y *B. ventralis*). L. c., 33, pp. 243-246, 1929.

JACQUINOT, II. et PUCHERAN, [J.]

Mammifères et Oiseaux. In Voyage au Pôle Sud et dans l'Océanie sur les corvettes L'Astrolabe et la Zélée; exécuté . . . pendant les années 1837-1838-1839-1840 sous le commandement de M. J. Dumont-D'Urville. Zoologie, par Hombron et Jacquinot. 3, pp. 5-166 [Oiseaux: pp. 47-158, 164-166], 8vo, Paris, 1853.

Two Chilean species, *Platyrus niger* (p. 91, pl. 19, fig. 5) and *Troglodytes eydouxi* (p. 94, pl. 19, fig. 6), both from Talcaguano, are described and figured. The plate, which contains only French vernacular names, was published in October, 1844.

JAFFUEL, F.

Sobre la Zenaida maculata. Rev. Chil. Hist. Nat., 22, pp. 75-78, 1918.
Reproduction in captivity.

JAFFUEL, F. and PIRION, A.

Aves observadas en el valle de Marga-Marga. Rev. Chil. Hist. Nat., 31, "1927," pp. 102-115, 1928.

Notes on the occurrence of ninety-three species in the valley of Marga-Marga, Valparaiso Province.

JAMES, H. B.

1. List of Chilian Birds. 8vo, pp. 15, Valparaiso, 1885.

A list of 241 species supposed to occur in Chile, printed in three columns. The names in the first column are those adopted by P. L. Selater in his List of Chilian Birds of 1867, the second shows the nomenclature of the Santiago Museum, and the third gives the local (vernacular) names. Several species are entered twice, when figuring under different names in Selater's list and in the Santiago Museum, while many of the latin names are misprinted. A poor production of little value.

2. A new List of Chilian Birds compiled by the late Harry Berkeley James. With a Preface by P. L. Selater. Printed for Private Use. 8vo, pp. vii + 15, London, 1892.

Nominal list of 255 species with vernacular names and a general statement of their occurrence in Chile. A very useful compilation.

JARDINE, W. and SELBY, P. J.

Illustrations of Ornithology. 4 vols. in 4to, Edinburgh, 1827-43.

Several Chilean birds are described and figured, viz., *Phytotoma bloxamii* (n. sp.), from Valparaiso (1, pl. 4, 1827); *Oreophilus totanirostris* (n. sp.), from "Andes of Chile" (3, pl. 151, 1835); *Scytalopus fuscus* (4, pl. 19, 1838).

JOHOW, F.

Estudios sobre la Flora de las Islas de Juan Fernandez. 1 vol., imp. 4to, pp. xi + 289, two maps, pll. 18, Santiago de Chile, 1896.

On pp. 237-238, a "Catálogo de las Aves Fernandezianus" is given, in which fourteen species, including one previously unrecorded from the islands, are listed with a summary of their distribution. On p. 29, details on the breeding of *Spheniscus humboldti* may be found.

JULIET, C.

Hidrografia e Historia Natural.—Informe del ayudante de la comision esploradora de Chiloé i Llanquihue. Anal. Univ. Chile, 45, pp. 661-734, 1874.

Scattered throughout the paper are references to the birds that were observed.

KING, P. P.

1. Extracts from a letter addressed by Capt. Philip Parker King to N. A. Vigors on the Animals of the Straits of Magellan. Zool. Journ., 3, No. 11, Sept. to Dec., 1827, pp. 422-432; l. c., 4, No. 13, April to July, 1828, pp. 91-105, pl. supp. 29.

Descriptions of, and notes on, birds from the Straits of Magellan and Uruguay (Maldonado).

2. [Characters of New Genera and Species of Birds from the Straits of Magellan.] Proc. Comm. Sci. and Corresp. Zool. Soc. Lond., 1, "1830-31," pp. 14-16, Jan. 6, 1831; l. c., pp. 29-30, March 2, 1831.

Descriptions of new species from the Straits of Magellan, Chiloé, and Juan Fernandez. [Reprinted in "The Philos. Magaz. and Ann. of Philos.," new ser., 9, No. 49, pp. 64-66, Jan., 1831, and No. 51, pp. 226-227, March, 1831. If the numbers of this periodical were really issued on the "first day of every month," as stated on the wrappers, King's new species will have to be quoted from the "Philos. Mag." instead of from the "Proc. Comm. Sci. Corresp. Zool. Soc."]

3. Birds. In Narrative of the Surveying Voyages of his Majesty's Ships Adventure and Beagle, between the years 1826 and 1836, describing their Examination of the Southern shores of South America and the Beagle's circumnavigation of the Globe. London, 1839, 1, pp. 532-544.

Reprints (newly arranged in systematic order) of the papers by Captain King published in Zool. Journ., 3 and 4, and Proc. Comm. Sci. Corresp. Zool. Soc. Lond., 1, also including Vigors's description of *Mellisuga kingii*. In all eighty-two species are listed.

KITTLITZ, F. H. VON

1. Über einige Vogel von Chili, beobachtet in Marz und Anfang April 1827. Mém. Ac. Imp. Sci. St. Pétersb., sav. étr., 1, livr. 2, pp. 173-194, pll. 1-12, 1830; l. c., 2, pp. 465-472, pll. 1-5, August, 1835.

Descriptions and colored figures of seventeen species of Chilean birds, all except two believed to be new. See also CHROSTOWSKI.

2. Kupfertafeln zur Naturgeschichte der Vogel. 1 vol. in demy 8vo, pp. i, ii, 3-28, pll. 1-36, Frankfort-on-Main, 1832-33.

On pp. 18-19, pl. 23, figs. 1, 2, of Heft 2, *Fringilla fruticeti* (Valparaiso) and *F. alaudina* are described and figured. See also CHROSTOWSKI.

3. Denkwürdigkeiten einer Reise nach dem russischen Amerika, nach Mikronesien und durch Kamtschatka. 1, pp. xiv + 382, 8vo, Gotha, 1858.

The fourth chapter is in part devoted to the author's sojourn in Chile, with notes on the birds observed and collected in the vicinity of Concepción (pp. 110-126), Valparaíso (pp. 132-138), and during excursions from the latter city along the coast and to the Valley of Quillota (pp. 139-183). Several substitute names are incidentally quoted from the author's old manuscript.

KRAHNASS, A.

1. [Les cris de l'Effraye du Chili et celui du Nandou.] Act. Soc. Scient. Chili, 5, livr. 4, "1895," pp. CXLIII-CXLIV, April 4, 1896.
2. Note sur les cris de l'Effraye du Chili. L. c., 7, livr. 2-3, pp. 87-89, Oct. 4, 1897.

LAFRESNAYE, F. DE

1. Phytotome. Phytotoma Molina. Mag. Zool., 2, cl. 2, text (pp. 1-12) to pl. 5, 1832.

Note on the plumages, and figure of an immature male, of *P. rara*, which the author erroneously refers to *P. rutila*.

2. Alouette. Alauda Lin. Certhilauda Swainson.—Sirli Lesson. Mag. Zool., 6, cl. 2, text (pp. 1-7) to pl. 58 and 59, 1836.

On p. 6, a supposed new species sent by Gay from Chile is described as *Alauda nigro-fasciata* [= *Geositta cunicularia fissirostris*].

3. Oiseaux nouveaux de Santa-Fé de Bogotá. Rev. Zool., 3, pp. 101-106, 1840.
Merulaxis analis, from "Paraguay or Chile," is incidentally described as new (p. 104).

4. Observations on the Genus Scytalopus. Contrib. to Ornith., 4, Part 4, pp. 145-150, Oct., 1851.

Merulaxis fuscoideus (n. sp.), from Chile, is described.

5. Sur quelques espèces d'Oiseaux nouveaux ou peu connus du Chili et de la Colombie. Rev. Mag. Zool., 2nd ser., 7, pp. 59-63, pl. 3, 1855.

Muscisaxicola flavinucha (pl. 3), from Chile, *M. albiflora* and *M. albimentum*, from an unknown locality, are described as new.

LAFRESNAYE, [F.] DE and D'ORBIGNY, A.

Synopsis Avium ab Alcide d'Orbigny in ejus per Americam meridionalem itinere, collectarum et ab ipso viatore necnon a de Lafresnaye in ordine redactarum. Mag. Zool., 7, cl. 2, pp. 1-88, 1837; l. c., 8, cl. 2, pp. 1-34, 1838.

A preliminary list with localities of the species collected by d'Orbigny during his travels in southern and western South America. Many species are recorded from Valdivia, Valparaíso, Cobija, and various localities in the province of Tacna, then belonging to Peru. D'Orbigny was the first naturalist to visit this province. Nine new species are described from Tacna (Tacna, Arica, Palca, Tacora), and five others from Cobija. For a fuller account of his collections see under D'ORBIGNY.

LANDBECK, L.

1. Descripción de una nueva especie de pájaro chileno del género Scytalopus. Anal. Univ. Chile, 14, for April, May, and June, pp. 182-184, 1857.

Scytalopus albifrons from the vicinity of Valdivia is described as new.

2. Pteroptochos albifrons n. sp. Arch. Naturg., 23, pp. 273-275, 1857.
German translation of No. 1.

3. Über die chilenischen Wasserhühner aus der Gattung Fulica. Arch. Naturg., 28, pp. 215-228, 1862.

German translation of PHILIPPI and LANDBECK (6), but the illustrations are omitted.

4. Beiträge zur Ornithologie Chiles. Arch. Naturg., 30, (1), pp. 55-62, 1864.
Dendroica atricapilla (p. 56), from Collico, near Valdivia, and *Arundinicola citreola* (p. 58), from the Mapocho Valley above Santiago, are described as new.
5. Contribuciones a la Ornitología de Chile. Anal. Univ. Chile, 24, No. 4, pp. 336-348, April, 1864.
 Redescription (in Spanish) of *Dendroica atricapilla* and *Arundinicola citreola* and *Chlorospiza plumbea*, *Sycalis aureiventris*, and *Accipiter chilensis*. See PHILIPPI and LANDBECK (14).
6. Sobre algunos pájaros chilenos. Anal. Univ. Chile, 41, pp. 515-519, April, 1872.
 Explains the differences between *Sterna trudeani* and *S. frobenii*, *Conurus cyanolyseos* and *C. palagonus*, and *Sterna galariculata* and *S. comata*.
7. Zur Ornithologie Chiles. Arch. Naturg., 40, pp. 112-116, 1874.
 Insists on the specific distinctness of *Conurus cyanolyseos* and *C. palagonus*, and discusses the distinguishing features of *Sterna frobenii*.
8. Der gemeine chilenische Colibri (*Trochilus sephanoides* Less.) als Traubenverwüster. Zoologischer Garten, 17, pp. 225-229, 1876.
 Contains a short account of the geographical distribution of the Chilean species of humming-birds.
9. Bemerkungen über die Singvogel Chiles. Zoologischer Garten, 18, pp. 233-261, 1877.
 An excellent paper dealing with the life history, local distribution, range, and migration of Chilean songbirds. *Chrysomitris crassirostris* (p. 254), from the Uspallata and Portillo Passes beyond the Chilean frontier, is described as new.
10. Einige Bemerkungen über den Condor (*Sarcoramphus condor*). Zoologischer Garten, 18, pp. 296-297, 1877.
11. Jagd, Vogelfang and Vogelhandel in Chile. Zoologischer Garten, 18, pp. 370-372, 1877. See also R. A. PHILIPPI and L. LANDBECK.

LANE, A. A.

- Field-Notes on the Birds of Chili. With an Introduction and Remarks by P. L. Slater. Ibis, 7th ser., 3, pp. 8-51, 177-195, 297-317, 1897.
- Lane worked in the vicinity of Santiago, in Tarapacá, and in Arauco and Valdivia. One hundred twenty-four species are treated in the annotated list, which gives much valuable information about local and vertical distribution, migratory movements, habits, and nidification.

LATASTE, F.

1. Minuscule contribution à l'ornithologie chilienne. Act. Soc. Scient. Chili, 3, livr. 3, "1893," pp. CXIII-CXVI, March, 1894.
 Notes from the provinces of Ñuble (Chillan), Colchagua (Cauquenes), Santiago (Aculeo), and Maule (Ninhue, Dept. Itata).
2. La Question de l'Effraye du Chili, *Strix perlata* Lichtenstein ou *Strix flammea* Linné? L. c., 4, livr. 4, "1894," pp. 165-176, Jan. 22, 1895.
 Interesting observations on the life-history of the Chilean Barn Owl, which the author considers separable from the European form by its longer tarsi.
3. Nouvelles Observations sur les mœurs et les manifestations phonétiques de l'Effraye Sud-Américaine (*Strix perlata* Lichtenstein). L. c., 5, livr. 1-3, pp. 63-72, Dec. 20, 1895.
 Further contributions to the life-history of the Barn Owl.
4. Liste d'oiseaux recueillis, en trois jours de chasse, à la fin du mois de décembre, dans la hacienda de Caillihué (départ. de Vichuquen). L. c., 5, livr. 1-3, pp. XXXIII-XXXIV, Dec. 20, 1895.
 Annotated list of twenty-one species collected at Caillihué, Prov. Curicó.

5. Liste d'oiseaux capturés à Llohué (Itata), du 8 au 13 avril, et à Junquillos (San Carlos), les 13 et 14 avril 1895; avec réflexions sur le vol à voile et le vol ramé. L. c., 5, livr. 1-3, pp. LX-LXIII, Dec. 20, 1895.
Annotated list of thirty-eight species obtained in the provinces of Maule and Ñuble.
6. La femelle du Huairavo (*Nycticorax obscurus* Bonaparte) a la même robe que le mâle. L. c., 6, livr. 2-3, p. LXVII, 1896.
7. Faisan commun (*Phasianus colchicus* Linné) vivant et se reproduisant en liberté aux environs de Coquimbo. L. c., 6, livr. 2-3, p. LXVII, 1896.
8. Mes dernières observations sur la Zooéthique du *Strix perlata* Lichtenstein. L. c., 7, livr. 2-3, p. 112, Oct. 4, 1897.
Call-note of the female.
9. Présentation d'une collection d'Oiseaux du Chili. Extraits des Procès-Verbaux des Séances de la Société Linnéenne de Bordeaux, pp. 166-172, 1923.
Annotated list of seventy-one species collected by the author in various parts of central Chile and presented by him to the Society. With the exception of a few, all had been recorded in previous papers.
10. Excursion dans la Hacienda d'Aculeo, Chili (Vol du Condor.—Nid de Cygnes.—Ruse de Canard.—Nidification de Grèbes). L. c., pp. 192-194, 1923.
11. La nidification et la ponte du Grèbe leucoptère. Rev. Chil. Hist. Nat., 29, pp. 135-137, 1925. See also E. WAUGH.

LEADBEATER, B.

Descriptions of some new Species of Birds belonging chiefly to the rare Genera *Phytotoma*, Gmel., *Indicator*, Vieill., and *Cursorius*, Latham. Trans. Linn. Soc. Lond., 16, Part 1, pp. 85-93, 1829.

Tyrannulus Vieilloti, from Chili, is described as new (p. 88).

LESSON, R. P.

1. Observations générales sur l'histoire naturelle des diverses contrées visitées par la corvette la Coquille, et plus particulièrement sur l'ornithologie de chacune d'elles. In L. I. Duperrey, Voyage autour du monde exécuté... sur la corvette... la Coquille, pendant les années 1822, 1823, 1824 et 1825. Zoologie, par Lesson et Garnot. 1, Part 1, livr. 6, pp. 229-246, March 22, 1828, Paris, 4to.

A general account of the natural history of the vicinity of Talcaguana [= Talcaguano], Penco, and Concepción, with numerous notes on the birds observed or collected. *Picus chilensis* (p. 241) is described as new. The generic name *Hymenops* (ex Commerson M.S.) is proposed (p. 239) for "Le Clignot" of Buffon [= *Motacilla perspicillata* Gmelin].

- 1a. Manuel d'Ornithologie, ou Description des genres et des principales espèces d'Oiseaux. 2 vols. in 18mo, Paris, June, 1828.

Several species from Chile are described as new: *Synallaxis tупiniieri* (1, p. 281), Concepción; *Furnarius chilensis* (2, p. 17), San Vincent; *Podiceps chilensis* and *Podiceps americanus* (2, p. 358), Concepción.

2. Catalogue des oiseaux recueillis dans l'expédition de la Coquille, avec la description de plusieurs genres nouveaux et d'un grand nombre d'espèces inédites. In L. I. Duperrey, Voyage autour du monde exécuté... sur la corvette... la Coquille, pendant les années 1822, 1823, 1824 et 1825. Zoologie, par Lesson et Garnot. 1, Part 2, livr. 14, pp. 614-648, Jan. 9, 1830; livr. 15, pp. 649-696, April 3, 1830; livr. 16, pp. 697-735, May 1, 1830, Paris, 4to.

In this annotated catalogue, seven Chilean species are described as follows: *Psittacara patagonica*, Concepción (p. 625); *Anthus sordidus* (n. sp.), Talcaguano, Concepción (p. 664); *Troglodytes chilensis* (n. sp.), Concepción (p. 665); *Synallaxis tупiniieri*, Concepción (p. 665, pl. 29, fig. 1); *Furnarius chilensis*, Saint-

Vincent (p. 671); *Orthorhynchus sephaniodes*, Concepción, near Talcaguano (p. 683, pl. 31, fig. 2); *Columba araucana* (n. sp.), Talcaguano (p. 706, pl. 40).

3. Centurie Zoologique, ou Choix d'Animaux rares, nouveaux ou imparfaitement connus; enrichi de planches inédites, dessinées d'après nature par M. Prêtre, gravées et coloriées avec le plus grand soin. 1 vol. in 4to, pp. i-x, 11-244, pls. 1-80, Paris, 1830-32.

Contains descriptions and colored figures of the following Chilean birds: *Attagis Gayi* (n. sp.), from Santiago (p. 135, pl. 47); *Tinocchorus Orbignyianus* (n. sp.), from Santiago (pp. 137, 139, pls. 48, 49); *Megalonyx rufus* (n. sp.), from southern Chile (p. 200, pl. 66).

4. Illustrations de Zoologie, ou Recueil de figures d'animaux peintes d'après nature. 1 vol. in 8vo, 103 ll., pls. 1-60, Paris, 1832-35.

Full description and colored figure (pl. 60) of *Megalonyx medius* Lesson, from Valparaiso, Chile.

5. [Description d'oiseaux nouveaux du Chile et du Pérou.] L'Institut, 2, No. 72, pp. 316-317, Sept. 27, 1834.

Besides others from Callao, Peru, the author describes as new *Megalonyx medius*, *Phytotoma Molina*, *Dolichonyx griseus*, all from Valparaiso; *Fringilla erythrorhyncha*, from Coquimbo; *Vermivora elegans*, from southern Chile; *Troglodytes hornensis*, from twenty leagues southeast of Cap Horn. Most, if not all, of these species were evidently collected by M. Busseuil, naturalist of the "Thétis." See below under No. 6.

6. Histoire Naturelle. In Journal de la navigation autour du monde de la frégate La Thétis et de la Corvette L'Espérance pendant les années 1824, 1825 et 1826 . . . par le baron de Bougainville. 2, pp. 297-351, 1837, Paris, 4to.

In the ornithological portion, which occupies pp. 311-331, the following Chilean species are treated: *Vermivora elegans*, southern Chile; *Pitangus chilensis* (n. sp.), Valparaiso; *Dolichonyx griseus*, Valparaiso; *Fringilla erythrorhyncha*, Coquimbo; *Troglodytes hornensis*, twenty leagues southeast of Cap Horn; *Orpheus australis* (nom. nov.), Valparaiso; *Carbo Bougainvillii* (n. sp.), Valparaiso.

7. Description de treize oiseaux nouveaux, suivies [sic] de rectifications sur quelques espèces déjà publiées. Rev. Zool., 2, pp. 100-104, 1839.

Contains short latin diagnoses of *Corydalla chilensis* (n. sp.), from "Chile" (p. 101), and *Pepouza flavida* (n. sp.), from "provincia Valparaiso" (p. 102). The author claims priority for his genus *Megalonyx*.

8. Avium Species Novae. L. c., 2, pp. 104-105, 1839.

Synallaxis sordidus, from Chile, is described as new (p. 105).

9. Notices ornithologiques. L. c., 3, pp. 261-275, 1840.

Describes *Thriothorus rosaceus*, from "Plata et Chili" (p. 262), and *Cinclodes inornatus* (p. 267), from "Chili," as new. Several other Chilean species are incidentally mentioned.

10. Notes sur les Oiseaux nouveaux ou peu connus rapportés de la mer du Sud par M. Adolphe Lesson. Rev. Zool., 5, pp. 135-136, "May," 1842.

Five species from Chile are enumerated: *Pteroptochos megapodius*, Valparaiso; *Megalonyx rufogularis*, Chiloé and Valdivia; *Megalonyx nanus* (n. sp.), Chiloé; *Oxiurus patagonicus*, Chiloé; *Phytotoma Bloxamii*, Valparaiso.

11. Notes sur les Oiseaux nouveaux ou peu connus rapportés de la mer du Sud par M. Adolphe Lesson. L. c., 5, pp. 209-210, "July," 1842.

Several Chilean species are listed as follows: *Megalonyx rufocapillus* (n. sp.), Chiloé; *Megalonyx Tarnii*, Chiloé; *Ibis melanopsis*, Valparaiso; *Fulica armillata*, Valparaiso; *Columba denisea*, Valdivia; *Podiceps antarcticus* (n. sp.), Valparaiso.

12. Sur quelques oiseaux nouveaux ou peu connus rapportés de la mer du Sud. Echo du Monde Savant, 9e année, 2e semestre, No. 11, col. 253, 11 août 1842.

Reprint of the preceding paper with some omissions, the description of *Megalonyx rufocapillus* being eliminated among others.

13. Révision des espèces d'Oiseaux du genre *Magalonyx* [sic]. Act. Soc. Linn. Bordeaux, 12, "No. 41" [= No. 61], pp. 194-197, Sept. 15, 1842.

Megalonyx nanus is once more described as a new species, and *Eugralla* proposed as a subgenus for *Troglodytes paradoxus* Kittlitz.

14. Sur un nouveau genre d'oiseau échassier propre à l'Amérique méridionale. Écho du monde Savant, 11e année, 1e semestre, No. 26, col. 616-617, April 4, 1844. [Reprint, pp. 71-73.]

Dromicus lessonii (nov. gen. et sp.), from the vicinity of Valparaiso [= *Oreophilus ruficollis*].

15. Catalogue des oiseaux nouveaux, ou peu connus de la collection Abeillé (5e article). Écho du Monde Savant, 11e année, 2e semestre, No. 2, col. 29-32, July 7, 1844. [Reprint, pp. 128-134.]

Controstrum fuliginosum (n. sp.), from Chile (col. 30), described as new [= *Scytalopus fuscus*].

16. Catalogue des oiseaux nouveaux, rares ou peu connus de la collection Abeillé (11e article). Écho du Monde Savant, 11e année, 2e semestre, No. 8, col. 182-184, July 28, 1844. [Reprint, pp. 160-165.]

On col. 183, the name *Lobipes antarcticus* is tentatively proposed for Chilean specimens of *L. fulicarius*.

LEYBOLD, F.

1. Description de una nueva especie de Picaflor. Anal. Univ. Chile, 32, No. 1, pp. 43-44, January, 1869.

Trochilus atacamensis, from Copiapó, described as new.

2. Beschreibungen einiger Thiere und Pflanzen aus den Anden Chile's und der Argentinischen Provinzen. Leopoldina, 8, No. 7, pp. 52-56, March, 1873.

Full description of the adult male of *Trochilus atacamensis*.

LONNBERG, E.

The Birds of the Juan Fernandez Islands. In The Natural History of Juan Fernandez and Easter Island. Edited by Carl Skottsberg. III. Zoology. Part 1, pp. 1-24, Upsala, 1921.

An account of the thirty species of birds now known to inhabit the islands of the group. *Cinclodes onstaleti backstroemii* (p. 4) and *Pterodroma (Aestrelata) cooki masafuerae* (p. 14) are separated as new subspecies. No land birds (except two species introduced from Chile) are found on Easter Island.

LOWE, P. R.

1. [Proposed new name (*Belonopterus cayennensis molina*) for the Chilean Lapwing.] Bull. Brit. Orn. Cl., 41, pp. 110-111, 1921.

2. [Remarks on *Oreophilus ruficollis totanistrostris* "Lesson."] Bull. Brit. Orn. Cl., 42, p. 19, Oct. 29, 1921.

Author considers the Chilean form separable from the typical race.

MACFARLANE, J. R. H.

Notes on Birds in the Western Pacific, made in H. M. S. "Constance," 1883-5. Ibis, 5th ser., 5, pp. 201-215.

Contains notes on birds observed or collected in the Gulf of Peñas, in the vicinity of Coquimbo, at Arica, and on Juan Fernandez.

MATHEW, G. F.

1. Natural History Notes from Coquimbo. Zoologist, 2nd ser., 8, pp. 3578-3579, 1873.

2. Gulls off Valparaiso. L. c., pp. 3493-3494, 1873.

MÉNÉGAUX, A.

Étude d'une Collection d'Oiseaux provenant des hauts plateaux de la Bolivie et du Pérou méridional. Bull. Soc. Philom. Paris, 10th ser., 1, pp. 205-229, 1909.

A number of species obtained by Stübel in the Cordillera of Tarna are incidentally recorded.

MÉNÉGAUX, A. and HELLMAYR, C. E.

Étude des espèces critiques et des types du groupe des Passereaux trachéophones de l'Amérique tropicale appartenant aux collections du Muséum. I et II. Conopophagidés et Hylactidés. Bull. Mus. Hist. Nat. Paris, 11, No. 6, pp. 372-381, 1905.—III. Dendrocolaptidés. Mém. Soc. Hist. Nat. Autun, 19, pp. 43-126, 1906.

Numerous references to Chilean specimens, including several types, collected by d'Orbigny, Gaudichaud, Gay, Lataste, de la Narde, Philippi, E. C. Reed, and others. Various notes of importance for the identification of early records. The characters of *Geositta maritima* and *Cinclodes oustaleti* are discussed at length.

MÉNÉTRIÈS, E.

Monographie de la famille des Myiotherinae où sont décrites les espèces qui ornent le Musée de l'Académie Impériale des Sciences. Mém. Acad. Sci. St. Pétersb., 6th ser., 3, Part 2 (Sci. Nat.), pp. 443-543, pl. 1-16, 1835.

Troglodytes paradoxus Kittl. is redescribed under the name of *Malacothynchus chilensis*.

MEYEN, F. J. F.

Beiträge zur Zoologie, gesammelt auf einer Reise um die Erde von Dr. F. J. F. Meyen. Vierte Abhandlung. Vogel. Nov. Act. Acad. Caes. Leop.-Carol. Nat. Curios., 16, Suppl. 1, pp. 59-124, pl. vi-xxvi, 1834.

[Also issued with double pagination (pp. 183 [59]-248 [124]), the first figure, like the numbering of the plates (xvi-xxxvi), being continuous to the pagination of the three preceding parts of the "Beiträge."]

In addition to birds from other parts of the world, the paper deals with various species, some previously undescribed, from Copiapó and central Chile (Coquimbo; Valparaíso; Maipó, Santiago; San Fernando, Colchagua). (*Chelepyris chilensis*, erroneously ascribed to Chile, is an Old World species (*Lalage nigra* juv., from Manila).¹

MOLINA, G. I.

1. Saggio sulla storia naturale del Chili. 1 vol. in 8vo, pp. 367, Bologna, 1782.

The birds are treated at some length on pp. 232-268, and short characters of thirty-three new species described in the work are given on pp. 343-345.

A French translation, with latin diagnoses of the new species, under the title "Essai sur l'histoire naturelle du Chili, par M. l'abbé Molina; traduit de l'Italien, et enrichi de notes par M. Gruvel" was published at Paris in 1789.

2. Saggio sulla storia naturale del Chili di Gio. Ignazio Molina. Seconda edizione accresciuta e arricchita di una nuova carta geografica e del ritratto dell'autore. 4to, pp. V + 306, Bologna, 1810.

A revised enlarged edition of the original work. The text has been largely rewritten with additions and other changes. Ornithological matter occupies pp. 197-226. The diagnoses of the new species of animals, contained in the concluding chapter of the first edition, have been eliminated.

NICOLL, M. J.

Ornithological Journal of a Voyage round the World in the "Valhalla" (November 1902 to August 1903). Ibis, 8th ser., 4, pp. 32-67, pl. 1, 1904.

On pp. 44-52, the author lists nineteen species obtained between the Straits of Magellan and the Gulf of Peñas, and ten from the Bay of Valparaíso, Chile.

¹ Cf. Stresemann, Orn. Monatsber., 38, p. 19, 1930.

OBERHOLSER, H. C.

A Review of the Wrens of the Genus *Troglodytes*. Proc. U. S. Nat. Mus., 27, pp. 197-210, pl. 5, 1904.

Troglodytes musculus acormus (p. 204), from central Chile, is described as new.

D'ORBIGNY, A.

Voyage dans l'Amérique Méridionale (le Brésil, la République Orientale de l'Uruguay, la République Argentine, la Patagonie, la République du Chili, la République de Bolivie, la République du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832 et 1833, par Alcide d'Orbigny. Tome Quatrième. 3e Partie: Oiseaux. 4to, pp. iii + 395, pl. 1-6, 6bis, 7-66, Paris, 1834-47.

A full account of the collections with comprehensive notes on habits and distribution. The points visited in Chile are Valparaiso, Cobiya, Arica, Tacna (and the Cordillera inland up to Tacora), and Juan Fernandez Island. Several Chilean species are figured. See also F. DE LAFRESNAYE.

OUSTALET, E.

Mission Scientifique du Cap Horn. 1882-1883. Tome vi. Zoologie. Oiseaux. pp. B1-341, pl. 1-6, 4to, Paris, 1891.

This paper gives a full report on the birds collected in Tierra del Fuego and southern Patagonia by the French Expedition of 1882-83 and by M. Lebrun and the other officers of the "Volage" in 1884. Numerous references to Chilean localities of various species are scattered throughout the volume.

PÄSSLER, R.

1. Beiträge zur Verbreitung der Seevögel. Ornith. Monatsber., 17, pp. 99-103, 1909.

Records numerous species from various points along the coast of Chile.

1a. Beiträge zur Verbreitung der Seevögel. Journ. Ornith., 61, pp. 41-51, 1913; l. c., 62, pp. 272-278, 1914.

1b. Beiträge zur Verbreitung der Seevögel. Ornith. Monatsber., 23, pp. 59-61, 71-72, 1915.

2. Ein Ausflug bei Coronel in Chile. Zeits. für Oologie and Ornithologie, 16, pp. 27-30, 1906.

Notes on the breeding habits of certain birds in the vicinity of Coronel, Concepción. Several species are doubtless misidentified, such as *Zonotrichia canicapilla* and *Dinca* (sic) *minor*.

3. In der Umgebung Coronel's (Chile) beobachtete Vögel. Beschreibung der Nester und Eier der Brutvögel. Journ. Ornith., 70, pp. 430-482, 1922.

Excellent observations on the habits and nidification of seventy-seven species in the vicinity of Coronel, where Pässler (captain of a merchant vessel) stayed from August 27, 1914, to the end of October, 1918. Careful notes on the coloration of the soft parts of the collected birds are also given.

4. Schutzvorrichtungen am Vogelneste. Beitr. zur Fortpflanzungsbiologie der Vögel, 4, p. 30, 1928.

Notes on the nests of *Troglodytes hornensis* and *Patagona gigas* from observations in Chile.

PEALE, T. R.

United States Exploring Expedition during the years 1838, 1839, 1840, 1841 and 1842 under the command of Chas. Wilkes. 8, Mammalia and Ornithology. 4to, pp. xxv + 388, Philadelphia, 1848.

About a dozen Chilean species, mostly from Valparaiso, are included in this work. The following are described as new: *Turdus pallidus*, "Valparaiso" (p. 86) [= *Colluricincla harmonica*, Australia!]; *Regulus plumulosus*, Valparaiso

(p. 94); *Fringilla* (*Niphaea*) *laciniata*, Valparaiso (p. 121); *Pipilo cinerea*, road from Valparaiso to Santiago (p. 123); *Caprimulgus conterminus*, near Valparaiso (p. 169); *Larus albigenuis*, harbor of Valparaiso (p. 288). Besides, two species from Orange Bay, Tierra del Fuego, *Rallus luridus* (p. 223) and *Scolopax meridionalis* (p. 230), are also characterized as undescribed.

Several of the supposed novelties are relegated to the synonymy of previously described species by Cassin (U. S. Expl. Exp., Mammalogy and Ornithology, 1858, pp. 429-452), who reprinted some of Peale's original descriptions in footnotes to his "Catalogue of Birds."

PELZELN, A. VON

1. Über neue und weniger gekannte Arten von Raubvögeln in der kaiserlichen ornithologischen Sammlung. Sitzungsberichte Ak. Wiss. Wien, math.-naturwiss. Cl., 44, Abt. 1, pp. 7-16, 1861.

Milvago crassirostris from Chile (p. 9), is described as new.

2. Vogel. In Reise der österreichischen Fregatte "Novara" um die Erde in den Jahren 1857, 1858, 1859, unter den Befehlen des Commodore B. von Wüllerstorff-Urbair. Zoologischer Theil. I. Band, Wirbelthiere. 2, pp. i-iv, 1-176, pls. i-vi, 4to, Wien, 1865.

Mentions various species from Valparaiso and Santiago obtained by members of the Expedition or secured from the resident naturalists Dr. Segeth and Mr. Leybold, and others from Chiloé Island collected by F. Germain, of which a list is given on p. 163. The eggs of several Chilean species are described and figured.

PHILIPPI, F.

1. Reise nach der Provinz Tarapacá. Verhandl. Deutsch. Wissensch. Ver. Santiago, 1, Heft 4, pp. 135-163 (with map), 1886.

An account of a journey through the provinces of Atacama, Antofagasta, and Tarapacá, with notes on the fauna and flora. For a complete list of the birds collected during the trip see R. A. PHILIPPI (15).

2. Dos Aves Nuevas de Chile. Bol. Mus. Nac. Chile, 1, No. 3, pp. 63-65, 1909.

Pelecanus landbecki, from an indefinite locality in Chile, and *Sylviorthorhynchus fasciolatus*, from Victoria, Valdivia, are described as new.

PHILIPPI, R. A.

1. Descripción de una nuevá (sic) especie de Flamenoo (sic), *Phoenicopterus andinus*. Anal. Univ. Chile, pp. 337-338, August, 1854.

The new species was secured on a salt-lake below Altos de Pingo-Pingo, twenty-five leagues from San Pedro de Atacama.

2. Über einige Vogel Chile's. Briellisches an den Herausgeber. Arch. Naturg., 21, pp. 9-14, 1855.

Besides a German description of *Phoenicopterus andinus*, the author gives some notes on *Ardea cocoi*, *Xanthornus cayennensis*, and *Circus macropterus*.

3. Noticias zoológicas relativas a la fauna Chilena. Anal. Univ. Chile, 14, pp. 179-182, for April, May, and June, 1857.

The following three species are described as new: *Rallus salinasi*, Chile; *Upucerthia atacamensis*, near San Pedro de Atacama; *Totanus chilensis*, Chile.

4. Ueber einige chilenische Vogel und Fische. Arch. Naturg., 23, pp. 262-272, 1857.

In addition to German translations of the descriptions of the new birds treated in the preceding paper, Philippi describes *Culicivora Fernandeziana*, from Juan Fernandez, as new.

5. Kurze Beschreibung einer neuen Chilenischen Ralle. Arch. Naturg., 24, pp. 83-84, 1858.

Rallus uliginosus, from the plains of Santiago, is described.

6. Beschreibung neuer Wirbelthiere aus Chile. Arch. Naturg., 24, pp. 308-311, 1858.

Graculus elegans (p. 305), from Chiloé, is described as new.

7. Ueber zwei vermuthlich neue Chilenische Enten und uber *Fringilla barbata* Mol. Arch. Naturg., 26, pp. 24-28, 1860.

Anas iopareia and *Erismatura villata* are described as new, and the synonymy of *Spinus barbatus* is discussed at length.

8. Reise durch die Wüste Atacama auf Befehl der chilenischen Regierung im Sommer 1853-54 unternommen und ausgeführt von R. A. Philippi. 4to, pp. X + 192 + 62, one map, twenty-seven plates, Halle, 1860.

A general account of a trip to the Desert of Atacama. The birds are treated briefly on pp. 161-163 and pll. (Zool.) 3-5, where *Upucerthia atacamensis*, *Phoenicopterus andinus*, and *P. ignipalliat* are figured. Thirty-three species are listed. The preface of the book is dated "Santiago, August 29, 1858."

9. Viage al Desierto de Atacama hecho de Orden del Gobierno de Chile en el verano 1853-54 por R. A. Philippi. Publicado bajo los auspicios del Gobierno de Chile. 4to, pp. viii + 236, one map, twenty-seven plates, Halle en Sajonia, 1860.

Spanish translation of the foregoing work. The birds are contained on pp. 143-148. The preface is dated "September 3, 1858."

10. Commentario critico sobre los animales descritos por Molina. Anal. Univ. Chile, 29, No. 10, October, pp. 775-802, 1867.

On pp. 788-795, the birds described by Molina are critically reviewed, and their identification is attempted.

11. [Letter relating to certain birds of Chili.] P. Z. S. Lond., pp. 531-532, 1868.

12. Catálogo de las aves chilenas existentes en el Museo Nacional de Santiago. Anal. Univ. Chile, 31, No. 2, August, pp. 241-335, 1868. [Also separately issued in pamphlet form, with the same title, but dated "1869," pp. 1-95.]

A systematic catalogue of the birds, representing 229 species, in the Museo Nacional de Santiago, with short notes on their distribution in Chile. Numerous critical notes are offered in various appendices at the end of this important paper.

13. Ueber eine neue Art von *Spheniscus*, *S. trifasciatus* Landbeck. Zeits. f. d. gesamten Naturwiss., Neue Folge, 7, pp. 121-127, pll. 1, 2, 1873.

The type of the supposed new species was caught on the seacoast near Valdivia. The colored plate shows it to be *S. magellanicus*. *S. humboldti* breeds on a little island opposite Algarrobo, south of Valparaiso.

14. Ueber einige neue chilenische Thiere. Arch. Naturg., 45, pp. 158-164, pl. 9, 1879.

The eggs of *Phoenicopterus andinus*, *Spheniscus trifasciatus*, and *S. humboldti* are described, and an extralimital species, *Taenioptera australis* (pl. 9) [= *Neozolmis rufiventris*], from Patagonia, is characterized as new.

15. Ornithologie der Wüste Atacama und der Provinz Tarapacá. Ornith., 4, Heft 1, pp. 155-160, 1888.

Results of a collecting trip by Friedrich Philippi and Karl Rahmer. List of eighty species with localities. See also F. PHILIPPI (1).

16. Albinismus unter den Vögeln Chiles. Verhandl. Deutsch. Naturwiss. Ver. Santiago de Chile, 2, Heft 4, pp. 231-234, 1892.

Albinism in sixteen Chilean species recorded, and notes on *Ardea cocoi* and *A. candidissima*.

17. Über *Phalaropus antarcticus* und *Wilsoni*. Verhandl. Deutsch. Naturwiss. Ver. Santiago de Chile, 2, Heft 5-6, pp. 266-271, pl. 4, 5, 1893.

18. Comparación de las faunas i faunas de las Repúblicas de Chile i Argentina. Anal. Univ. Chile, 84, Entr. 15, pp. 529-555, July, 1893.

The birds are discussed on pp. 542-545, and a list of the species supposed to be common to Chile and Argentina is given on pp. 549-552.

19. Neue Thierte Chile's. Verhändl. Deutsch. Wissensch. Ver. Santiago de Chile, 3, Heft 1-2, pp. 9-23, 1895.

Procellaria (Oceanites) collaris (n. sp.) is based on a specimen found dead inland of Talta, Antofagasta (p. 11). Besides, a fossil species, *Phalacrocorax sulcatus*, is described from the Guano of Tarapacá (p. 17).

20. Pájaros nuevos Chilenos. Anal. Univ. Chile, 91, for December, pp. 667-675, 1895.

The following supposed new species are described: *Elainea murina* (p. 668), Santiago; *Synallaxis montana* (p. 673), no definite locality; *Synallaxis (Leptosthenura) stenoptila* (p. 673), Andes of Santiago; *Synallaxis cinerea* (p. 674), San Fernando; *Chrysomitris anthracina* (p. 675), "San Fernando."

21. Wie weit Vögel sich verfliegen können. Zoologischer Garten, 39, p. 69, 1898.

Records specimens of the American Barn Swallow taken at Arica and in the vicinity of Santiago.

22. Observaciones críticas sobre algunos pájaros chilenos i descripción de algunas especies nuevas. Anal. Univ. Chile, 103, pp. 661-675, April, 1899.

Critical notes on the Chilean species of *Buteo* (of which not less than eight are described as new!), *Spheniscus* (two new ones) and *Phalacrocorax* (two new).

23. Kritische Bemerkungen über einige Vogel Chiles. Arch. Naturg., 65, pp. 165-174, 1899.

The preceding paper (22) in German translation.

24. Figuras i Descripciones de Aves Chilenas. Anales Mus. Nac. Chile. Entrega 15. Primera Sección. Zoolojía, pp. 114, pl. 51, 4to Santiago de Chile, 1902.

Discussion and colored figures (of exceedingly poor quality) of various species of Chilean birds described by Philippi and Landbeck. In many cases the original descriptions are reprinted without any additional information.

PHILIPPI, R. A. and LANDBECK, L.

1. Beschreibung zweier neuen chilenischen Vogeln aus den Geschlechtern *Procellaria* und *Caprimulgus*. Arch. Naturg., 26, pp. 279-284, 1860.

Caprimulgus andinus, from the Cordillera of Santiago, and *Thalassidroma segethi*, from an unspecified locality, are proposed as new species. *Eriamatura vittata* is believed to be identical with *E. ferruginea*. Some misidentifications in Des Murs's contribution to Gay's Historia física y política de Chile are corrected.

2. Descripción de una nueva especie de pájaros de Chotacabra o *Caprimulgus*. Anal. Univ. Chile, 18, pp. 29-33, 1861.

Redescription (in Spanish) of *Caprimulgus andinus* and corrections to Des Murs, as in the preceding paper.

3. Descripción de una nueva especie de pájaros del género *Thalassidroma*. Anal. Univ. Chile, 18, pp. 27-29, 1861.

Redescription (in Spanish) of *Th. segethi* (see No. 1).

4. Descripción de algunas especies nuevas de pájaros. Anal. Univ. Chile, 18, No. 6, June, pp. 731-734, 1861.

Upucerthia albiventris, from the vicinity of Arica, *Larus frobenii*, from Arica, and *Larus cinereocaudatus*, from Tomé, Valparaíso, and Arica are described as new.

5. Neue Wirbelthiere von Chile. Arch. Naturg., 27, pp. 289-301, 1861.

On pp. 290-295, the three species made known in the preceding paper (4) are redescribed in German.

6. Sobre las especies chilenas del género *Tulica* (sic). Anal. Univ. Chile, 19, No. 4, October, pp. 501-509, 1861.

Full descriptions of *T. chloropoides*, *T. chilensis*, and *T. rufifrons* (n. sp.), with drawings of the frontal shield of the three species.

7. Descripción de unas nueve especies de pájaros peruanos del Museo Nacional. Anal. Univ. Chile, 19, No. 5, November, pp. 609-622, 1861.

The following species from the province of Tacna, then forming part of Peru, are characterized as new: *Synallaxis striata* (Cordillera of Tacna); *Chlorospiza erythronota* (Putre or Parinacota); *Pitylus albociliaris* (Socorama); *Sterna lorata* (Arica); *Sterna Trobeni* [sic] (Arica); *Sterna comata* (Arica); *Leistes albigipes* ("Peru"); *Recurvirostra andina* ("Parinacota"); *Dasycephala albicauda* (Cordillera of Tacna).

8. Sobre los gansos chilenos. Anal. Univ. Chile, 21, No. 5, November, pp. 427-439, 1862.

Full descriptions of the Chilean species of the genus "*Bernicla*," including two new ones, *B. dispar* and *B. chilensis*.

9. Descripción de una nueva especie de pato del Peru. Anal. Univ. Chile, 21, No. 5, November, pp. 439-440, 1862.

Querquedula angustirostris from the laguna "Cucullata," Prov. Tacna, is described as new.

10. Descripción de una nueva golondrina de mar. Anal. Univ. Chile, 21, No. 5, November, pp. 440-442, 1862.

Sterna atrifasciata (n. sp.) is based on a single young female taken in the lagoon of Vichuquen.

11. Beiträge zur Fauna von Peru. Arch. Naturg., 29, pp. 119-138, 1863.
German version of No. 7.

12. Ueber die chilenischen Gänse. Arch. Naturg., 29, pp. 184-202, 1863.
German reprint of No. 8.

13. Beschreibung einer neuen Ente und einer neuen Seeschwalbe. Arch. Naturg., 29, pp. 202-206, 1863.
German version of Nos. 9 and 10.

14. Beiträge zur Ornithologie Chiles. Arch. Naturg., 30, pp. 41-54, 1864.

Three new Chilean birds, *Accipiter chilensis*, from an unspecified locality, *Chlorospiza plumbea* and *Sycalis aureiventris*, from the Cordillera of Santiago, are characterized.

15. Contribucion a la ornitologia de Chile. Anal. Univ. Chile, 25, No. 3, September, pp. 408-439, 1864.

Monographs of the Chilean species of the genera *Certhilauda* [= *Geositta*] and *Muscisaxicola*, with descriptions of several new species, *C. frobeni*, *C. isabellina*, *Grobamon fuscatus*, *Muscisaxicola cinerea*, *M. rubricapilla*, *M. flaviventer*, and *M. nigrifrons*. Besides, *Pteroptochus castaneus*, from Colchagua, is characterized as new.

16. Beiträge zur Ornithologie von Chile. Arch. Naturg., 31, (1), pp. 56-106, 1865.

German reprint of No. 15.

17. Beiträge zur Fauna Chiles. Arch. Naturg., 32, (1), pp. 121-132, 1866.

Besides describing once more *Pteroptochus castaneus*, the authors characterize the following species as new: *Sterna luctuosa*, from the Rio Valdivia; *Synallaxis masafueræ*, from Mas Afuera Island; *Numenius microrhynchus*, from Chiloé and Arica.

POEPPIG, E.

1. Kurze Mitteilungen des Hrn. Dr. Pöppig während einer Reise nach der Südsee. Fries's Notizen aus dem Gebiete der Natur- und Heilkunde, No. 428 [= No. 10 des 20. Bandes], pp. 145-154, March, 1828.

The letter, dated "Valparaiso, April 14, 1827," gives a short account of the animal life in Chile generally. *Trochilus gigas* is shortly characterized in a footnote on p. 153.

2. Schreiben des jetzt in Chile reisenden Hrn. Dr. Poppig. L. c., No. 502 [= No. 18 des 23. Bandes], pp. 273-282, Feb., 1829.

General notes on nature and animal life in Chile. Eight species of birds are mentioned. The paper is signed "Hütte am Rio Colorado in den Anden Chile's. Dec. 24, 1827."

3. Schreiben des jetzt in Chile reisenden Hrn. Dr. Poppig. L. c., No. 529 [= No. 1 des 25. Bandes], pp. 1-10, July, 1829.

The paper, dated "Talcahuano, Prov. Concepcion, Chile, Oct. 15, 1828," contains (on pp. 6-10) under the subtitle "Fragmenta zoologica itineris chilensis, No. 1," descriptions of mammals and seven species of birds, including *Anas melopias* Pp. and *Anas sibilatrix* Pp. (ssp. nov.). [Reprinted in Férussac, Bull. Sci. Nat. et Géol., 19, pp. 97-104, 1829.]

4. Reise in Chile, Peru und auf dem Amazonenstromen während der Jahre 1827-1832. 1, 4to, pp. xviii + 466, Leipzig, 1835.

Account of the author's travels in the vicinity of Valparaiso, the Aconcagua Valley, the Andes of Santa Rosa [= Los Andes], the Bay of Concepción, and the Andes of Antuco, Biobio. On pp. 451-542, the habits of *Psittacus cyanolyseos* [sic] are described.

5. *Psittacus cyanolyseos* Mol. Arch. Naturg., 1, pp. 87-88, 1835.

Reprint of the account from "Reise in Chile . . ."

6. "Ueber das gesellige Nisten des *Psittacus cyanolyseos* Molina . . ." Froriep's Notizen aus dem Gebiete der Natur- und Heilkunde, No. 948 [= No. 2 des 44. Bandes], p. 24, March, 1835.

Reprint from "Reise in Chile . . ."

PORTER, C. E.

1. [Tinochorus orbignyianus se encuentra en Chañarcillo, s. e. de Copiapó.] Act. Soc. Sci. Chili, 4, livr. 4, "1894," p. CCXVI, Jan. 22, 1895.

2. Datos para la Fauna i Flora de la Provincia de Atacama. Lista de las especies colectadas. Rev. Chil. Hist. Nat., 3, No. 9, p. 135, Sept., 1899; No. 12, pp. 179-182, Dec., 1899.

On p. 179, two species of birds: *Attagis gayi* (Valle de San Antonio) and *Fringilla malutina* (Pabellon) are listed.

3. Bibliografía Ornitológica de Chile. Bol. Mus. Nac. Chile, 4, No. 2, pp. 197-206, 1912.

Historical sketch of the ornithological exploration and list of the principal publications relating to the birds of Chile.

4. Un pajarillo destructor de pulgones. Anal. Zool. Aplic., 3, p. 30, 1916.

Leptasthenura acyithaloides.

PRAZÁK, J. P.

Über einen vermutlich neuen Kiebitz aus Südamerika. Ornith. Monatsber., 4, p. 23, 1896.

A supposed new species from "northern Chile" is described as *Vanellus griseus*.

QUINADA B., B.

1. Catálogo Ilustrado i Descriptivo de la colección de las Aves Chilenas conservadas en el Museo Nacional. Bol. Mus. Nac. Chile, 1, pp. 269-378, 1911.

A popular catalogue of the Chilean birds in the National Museum at Santiago de Chile. Two nomina nuda, *Elainea nigrifrons* (p. 296) and *Mimus albicaudus*

(p. 301), both credited to Philippi, appear to be published for the first time. The paper adds nothing to our knowledge and has no scientific value whatever.

2. La Ornitología Chilena en el Diccionario de la Lengua Castellana. L. c., 10, pp. 5-27, 1917.

Deals in a popular manner with twenty-eight species of Chilean birds. Spanish vernacular names, short descriptions, and outlines of their ranges.

RAHMER, C.

1. Descripción de una nueva especie de Flamenco de la provincia de Tarapacá. Anal. Univ. Chile, 69, primera seccion, pp. 753-755, 1886.

Phoenicopterus jamesi, from near the foot of the Isluga Volcano, is described as new.

2. Briefliches über *Phoenicopterus Jamesi* Rahm. Journ. Ornith., 35, Heft 2, No. 178, pp. 160-162, pl. 2, April, 1887.

Besides a description of the new Flamingo, there is a note on the range of *P. andinus*. Colored figures of the heads of the three Chilean species.

3. Ornitología Chilena. I. Observaciones sobre el *Molothrus bonariensis* Gm. Bol. Mus. Nac. Chile, 4, pp. 207-209, 1912.

RASPAIL, X.

Examen Comparatif de l'Oeuf de l'Effraye du Chili. Act. Soc. Sci. Chili, 5, livr. 1-3, pp. 55-62, Dec. 20, 1895.

REED, CARLOS S.

1. Las Aves de la Provincia de Concepcion y algunas noticias acerca de su relacion con la Agricultura. 8vo, pp. 63, Santiago de Chile, 1904.

On pp. 35-48, there is a nominal list of 147 species with vernacular names, found in the province of Concepción.

2. Las Aves Chilenas consideradas mui especialmente desde el punto de vista biológico. 8vo, pp. I-XIV, 15-132, Concepción, 1907.

3. Datos para la biología del *Molothrus bonariensis*. Rev. Chil. Hist. Nat., 17, No. 3, pp. 172-179, pl. 14, June, 1913.

Reviews the present distribution in Chile of *M. bonariensis*, a comparatively recent immigrant.

4. Breves Notas Biológicas referentes a las Aves Chilenas. L. c., 27, pp. 145-146, 1923; 28, pp. 55-57, 1924; 29, pp. 189-191, 1925.

REED, EDWYN C.

1. Remarks on the Birds of Juan Fernandez and Mas Afuera. Ibis, 3rd ser., 4, pp. 81-84, 1874.

Notes on the six species of land-birds of Mas A Tierra and nominal list of the five species found on Mas Afuera.

2. Apuntes de la Zoología de la hacienda de Cauquenes, provincia de Colchagua. Anal. Univ. Chile, 49, pp. 585-569, 1877.

Annotated list of the birds on pp. 541-569.

3. Notes on the Birds of Chili. Ibis, 6th ser., 5, pp. 595-596, 1893.
Critical notes on the mode of occurrence of certain species.

4. Catálogo de las Aves Chilenas. Anal. Univ. Chile, 93, pp. 197-213, 1896.
List of 277 species with short annotations.

5. Sobre el género *Haematopus*. Rev. Chil. Hist. Nat., 9, Nos. 2-3, pp. 49-50, June, 1905.

Short notes on *H. ater*, *H. palliatus*, and *H. leucopus*.

REICHE, C.

La Isla de La Mocha. Anal. Mus. Nac. Chile, Entrega 16, pp. 104, pll. 12, Santiago de Chile, 1903.

Notes on a few birds may be found in the "Reseña zoológica de la isla" on p. 47.

REICHENBACH, H. G. L.

Handbuch der Speziellen Ornithologie, Scaensoriae. Lief. 1. A. Sittinae. pp. 145-218, Dresden and Leipzig, Aug. 1, 1853.

Upucerthia hypoleuca, from Chile, is described as a new species (p. 214).

REICHENOW, A.

1. [Über *Diomedea platei* n. sp.] Journ. Ornith., 47, pp. 118-119, 1899.

The type of this new albatross was shot by L. Plate at Cavanha, Chile.

2. [Über die Gattung *Cinclodes*.] Journ. Ornith., 68, pp. 238-241, 1920.

Records *C. bifasciatus* from Calama (Antofagasta) and discusses *C. chilensis* and *C. minor*.

RIDGWAY, R.

1. Descriptions of New Species and Races of American Birds, including a Synopsis of the Genus *Tyrannus*, Cuvier. Proc. U. S. Nat. Mus., 1, "1878," pp. 466-486, March 22, 1879.

Lichenops perspicillatus, β *andinus*, from Chili "to New Granada" (p. 483) is described as new.

2. Scientific Results of Explorations of the U. S. Fish Commission Steamer Albatross. II.--Birds collected on the Island of Santa Lucia, West Indies, Abrolhos Islands, Brazil, and at the Straits of Magellan in 1887-'88. Proc. U. S. Nat. Mus., 12, "1889," pp. 129-139, Feb. 5, 1890.

In the list of the birds of the Straits of Magellan (pp. 131-139), various species are recorded from Port Otway, Gulf of Peñas.

SALVADORI, T.

1. Catalogue of the Birds in the British Museum. 27, pp. XV + 636, pll. 19, London, 1895.

Two new species, *Merganetta frasnata* (p. 458, pl. 5, fig. 1), from "central Chili," and *Nothoprocta coquimbica* (p. 554, pl. 15), from Coquimbo, are described as new.

2. On the Genera *Henicornis* and *Chilia*. Ibis, 9th ser., 2, pp. 451-454, 1908.

A new genus *Chilia* is erected for *Enicornis melanura*, whose synonymy and range are indicated.

SALVIN, O.

1. Additional Notes on the Birds of the Islands of Mas Afuera and Juan Fernandez. Ibis, 3rd ser., 5, pp. 370-377, 1875.

Buteo exsul and *Oestrelata externa*, from Mas Afuera, are described as new. A revised list of the seventeen species known from the two islands is appended.

2. A List of the Birds collected by Captain A. H. Markham on the West Coast of America. P. Z. S. Lond., 1883, pp. 419-432.

Various species recorded from Coquimbo, Talcaguano, and Juan Fernandez. See also P. L. SCLATER.

SAUNDERS, H.

On some Laridae from the Coasts of Peru and Chile, collected by Captain Albert H. Markham, R. N., with Remarks on the Geographical Distribution of the Group in the Pacific. P. Z. S. Lond., pp. 520-530, pl. 34, 1882.

Several species of gulls and terns are recorded from Coquimbo Bay.

SCHALOW, H.

1. [Über die Vogelfauna von Juan Fernandez.] Sitzungsber. Gesells. Naturf. Freunde Berlin, pp. 68-71, 1897.

Twenty species are listed for the two islands. Two are peculiar to Mas A Tierra, three are exclusively found on Mas Afuera.

2. Die Vogel der Sammlung Plate. Zool. Jahrb., Suppl., 4 [= Fauna Chilensis], Heft 3, pp. 641-749, pl. 37, 38, December 15, 1898.

Collections were made at various points on the coast of Chile between Puerto Montt and Iquique, and on Mas A Tierra Island.

SCHNEIDER, C. O.

La Propagación del Gorrión en Chile. Anal. Zool. Aplic., 7, p. 5, 1920.

Occurrence of *Passer domesticus* near Concepción.

SCLATER, P. L.

1. Catalogue of a Collection of American Birds belonging to Philip Lutley Sclater. pp. xvi + 338, pl. 20, 8vo, London, 1862.

Chrysomitris uropygialis, from Chili, is described as new (p. 125).

- 1a. Note on the Species of the Genus *Muscisaxicola*. Ibis, new series, 2, pp. 56-59, 1866.

2. Notes on the Birds of Chili. P. Z. S. Lond., pp. 319-340, 1867.

A critical review of the avifauna of Chile, based on original research and perusal of the then existing literature. This important paper, the first scientific account of Chilean ornithology, closes with a nominal list of 209 species.

3. On the Land-birds of Juan Fernandez. Ibis, 3rd ser., 1, pp. 178-183, pl. 7, 1871.

Short notes on the six species known to occur on these islands, their distribution, and relationship. *Anaeretes fernandezianus* and *Oxyurus masafuerae* are figured.

4. List of a Collection of Birds from the Province of Tarapacá, Northern Chili. P. Z. S. Lond., pp. 395-404, pl. 36, 1886.

Annotated list of fifty-three species collected by Carlos Rahmer in the Cordillera of Tarapacá. *Phoenicopterus jamesi* is described as new and figured on the accompanying plate.

5. [Exhibition of, and Remarks upon, two young specimens of Darwin's Rhea (*Rhea darwini*) from the Province of Tarapacá.] Proc. Zool. Soc. Lond., p. 412, 1890.

6. On a Second Collection of Birds from the Province of Tarapacá, Northern Chili. Proc. Zool. Soc. Lond., pp. 131-137, pl. 13, 1891.

Report on a collection received by H. Berkeley James from A. Lane. Collecting stations were at Pica (4,000 feet), Sacaya (10,000 feet), and Lake Huasco (12,000 feet). Fifty-three species are enumerated, including *Phrygilus coracinus* (pl. 13) supposed to be undescribed.

7. [On the Egg of *Hylactes megapodius*.] Bull. Brit. Orn. Cl., 7, p. xxiii, 1897.

SCLATER, P. L. and SALVIN, O.

1. Second List of Birds Collected, during the Survey of the Straits of Magellan, by Dr. Cunningham. Ibis, new series, 5, pp. 283-286, 1869.¹

List of thirty-three species, collected at various points between the Straits of Magellan and Chiloé Island. Critical notes on some of the species.

¹The first article "List of Birds collected in the Straits of Magellan by Dr. Cunningham, with remarks on the Patagonian Avifauna" by P. L. Sclater and P. Salvin (Ibis, new series, 4, pp. 183-189, 1868) refers exclusively to the Straits of Magellan.

2. Third List of Birds collected, during the Survey of the Straits of Magellan, by Dr. Cunningham. With additional Note [on the Nests and Eggs] by the Editor [= A. Newton]. Ibis, new series, 6, pp. 499-504, 1870.

List of thirty-three species obtained at various points in the Straits of Magellan, on Chiloé Island, and at Coquimbo.

3. Reports on the Collections of Birds made during the Voyage of H. M. S. "Challenger."—No. IX. On the Birds of Antarctic America. Proc. Zool. Soc. Lond., pp. 431-438, 1878.

Most of the species were obtained in the Straits of Magellan, but a few are recorded from Juan Fernandez and Port Otway, Gulf of Peñas.

SCLATER, W. L.

[Description of new Hawks from South America.] Bull. Brit. Orn. Cl., 38, pp. 43-45, March 4, 1918.

The Chimango of southern Chile (Cautin and Valdivia provinces) is separated as *Milvago chimango temucoensis*.

SCOTT, W. E. D.

[Descriptions of apparently new or hitherto undetected species of birds from South America.] Bull. Brit. Orn. Cl., 10, pp. lxii-lxiv, April 30, 1900.

Several Chilean species are described as new: *Cinclodes oustaleti*, from "Chili and Mendoza" (p. LXII); *C. molitor*, from "Chili" (p. LXII); *Upucerthia saturator*, from "Central Chili" (p. LXIII). Besides, *Geositta brevirostris* Scott is recorded from "Central Chili."

SEEBOHM, H.

The Geographical Distribution of the Family Charadriidae, or the Plovers, Sandpipers, Snipes, and their allies. Roy. 4to, pp. XXIX + 1 + 524, with 21 pls., London, 1887.

On p. 496, the Chilean form of the South American Snipe is separated as *Scolopax frenata chilensis*.

SHARPE, R. B.

Account of the Zoological Collections made during the Survey of H. M. S. "Alert" in the Straits of Magellan and on the Coast of Patagonia. Aves. Proc. Zool. Soc. Lond., pp. 6-18, 1881.

Various species are recorded from Coquimbo, Valparaiso, and Talcaguano.

STEULET, A.

See E. DRAUTIER.

STREETS, T. II.

Contributions to the Natural History of the Hawaiian and Janning Islands and Lower California, made in connection with the United States North Pacific Surveying Expedition, 1873-75. Bull. U. S. Nat. Mus., 7, 1877. Ornithology, pp. 9-33.

Three Chilean species are listed: *Otus brachyotus* (p. 15), Talcaguano; *Graculus brasilianus* (p. 24), Concepción Bay; *Spheniscus humboldti* (p. 33), Talcaguano.

STRESEMANN, E.

1. *Oceanodroma hornbyi* (Gray) aus einem chilenischen Salpeterfelde. Ornith. Monatsber., 32, pp. 61-63, 1924.

2. *Puffinus griseus* (Gmelin) Brutvogel in der nordchilenischen Pampa. Ornith. Monatsber., 32, pp. 63-64, 1924.

3. Ueber *Tachyeres cinereus* und *T. patagonicus*. Ornith. Monatsber., 35, p. 47, 1927.

Of three Steamer-ducks secured by L. Plate at Calbuco, southern Chile, one belongs to *T. patachonicus*, two to *T. cinereus*.

4. Eine weitere Fundstelle von *Oceanodroma hornbyi* in der chilenischen Salpeterwüste. Ornith. Monatsber., 37, pp. 80–81, 1929.

SWAINSON, W.

1. Zoological Illustrations, or Original Figures and Descriptions of New, Rare, or Interesting Animals . . . 2nd ser., 3, 8vo, London, 1832–33.

Leptonyx macropus, from Chile, is described as new. The type was in W. Hooker's Collection.

2. Animals in Menageries. The Cabinet Cyclopaedia. Conducted by D. Lardner. Natural History. 1 vol. in cap 8vo, pp. vi + 373, London, "1838" [= December 31, 1837].

Contains descriptions of several species from "Chili" believed to be new, as follows: *Falco cinnamominus* (p. 281); *Leistes niger* (p. 304); *Platyrus niger* (p. 323); *Geositta anthoides* (p. 323); *Oxyurus ornatus* (p. 324); *Rallus sanguinolentus*, from "Brazil and Chili" (p. 335).

TSCHUDI, J. J. VON

Peru. Reiseskizzen aus den Jahren 1838–42. 1, 8vo, pp. XII + 346, St. Gallen, 1846.

The first chapter (pp. 3–35) is devoted to the author's sojourn in Chile (Chiloé Island, Valley of Quillota, and Valparaíso), and contains notes on a number of birds.

VIGORS, N.

1. [Characters of several new Species of Birds, collected by Mr. Cuming in Chili and Mexico]. Proc. Comm. Sci. Corresp. Zool. Soc. Lond., Part 2, pp. 3–4, March 29, 1832.

Notes on the female (or young male) of *Phytotoma bloxhami*, and description of *Xanthornus chrysocarpus* n. sp. [= *Agelaius t. ihilius*], from Chile. The three other species are erroneously ascribed to that country.

2. Ornithology. In the Zoology of Captain Beechey's Voyage; compiled from the collections and notes made by Captain Beechey, the officers and naturalist of the expedition, during a voyage to the Pacific and Behring's Straits performed in His Majesty's Ship Blossom, under the command of Capt. F. W. Beechey in the years 1825, 26, 27, and 28. 1 vol. in 4to, pp. 13–40, pls. 3–14, London, 1839.

Two Chilean species, both from Concepción, *Sturnella militaris* (p. 20) and *Colaptes chilensis* (p. 24) are listed.

WAUGH, E. and LATASSE, F.

1. Quelques jours de chasse à Peñaflor durant les mois de janvier et de mars. Act. Soc. Sci. Chili, 4, livr. 2, pp. LXXXIII–LXXXIX, Aug. 22, 1894.

Fully annotated list of thirty-six species from Peñaflor, on the Mapocho River, Prov. Santiago.

2. Une semaine de chasse, au mois de juin, dans la hacienda de San Alfonso (département de Quillota). L. c., 4, livr. 4, "1894," pp. CLXVII–CLXXXIII, Jan. 22, 1895.

Annotated list of forty-five species.

3. Addition à la liste des Oiseaux de Peñaflor. L. c., 5, livr. 1–3, pp. LIX–LX, Dec. 20, 1895.

Notes on eight additional species new to the region and on others previously observed.

WETMORE, A.

1. New forms of neotropical birds. Journ. Wash. Acad. Sci., 12, No. 4, pp. 323-328, Aug. 19, 1922.

Glaucoedon nanum rafrum (p. 323), from central Chile (Santiago to Tofo), is described as new.

2. New Subspecies of Birds from Patagonia. Univ. Calif. Pub. Zool., 21, No. 12, pp. 333-337, June, 1923.

Besides several races from the Straits of Magellan and Patagonia, *Pteroptochos rubecula nemorivaga* is described from Port Otway, Gulf of Peñas, Chile.

3. Observations on the Birds of Argentina, Paraguay, Uruguay, and Chile. Bull. U. S. Nat. Mus., 133, pp. IV + 448, pl. 1 (map), 1926.

Contains references to birds collected at Concon, Valparaiso, and discussions of various Chilean species.

WETZEL, W.

Vogelmumien und "Guano" in chilenischen Salpeterablagerungen. Centralbl. Min., Geol. und Paleont., 1925, Abt. A, pp. 284-288, 1925.

On Petrel mummies, apparently *Oceanodroma hornbyi*, from Tocopilla (Pampa del Toco) and the vicinity of Rio Loa, Antofagasta.

YARRELL, W.

Descriptions of the Eggs of Some of the Birds of Chile. Proc. Zool. Soc. Lond., 15, pp. 51-55, May, 1847.

The collection was made by T. Bridges.

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Current names in roman type, synonyms and secondary references in *italic* type, new names in **bold-faced** type.

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